Meeting the sexual and reproductive health needs of HIV care and treatment clients in Swaziland:

A comparative case study of integrated and stand-alone models of care

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LONDON SCHOOL OF HYGIENE & TROPICAL MEDICINE

Statement of Own Work

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Abstract

Background: The scale-up of HIV care and treatment services in sub-Saharan Africa has been accompanied by calls to address the broader health care needs of people living with HIV (PLWH), including their sexual and reproductive health (SRH) needs. The integration of HIV and SRH services has been proposed as an important means to achieve this. This thesis presents a comparative case study investigating health care structure, process and outcomes across four different models of HIV services in Swaziland: two integrated SRH-HIV clinics, one semi-specialist HIV outpatient unit at a hospital, and one stand-alone HIV clinic.

Methods: Mixed methods were used including in-depth interviews with providers and clients, and an exit survey (N=611) with HIV clients. Qualitative data were analysed thematically. Quantitative data were compared across clinic models using chi-squared tests and analysis of variance. Selected outcomes were analysed with logistic regression modelling. Qualitative and quantitative data were triangulated and integrated in the presentation of results.

Findings: A critical need for SRH services was identified across all four sites. Most clients relied on condoms alone for contraceptive protection, reflecting a service focus on reinfection rather than pregnancy risk. In multivariable analyses, integrated sites did perform better than the most stand-alone site in promoting access to family planning and pregnancy counselling, but were no better or worse in providing condoms, addressing unmet needs for family planning, achieving client satisfaction and reducing stigma. Provider capacity to move beyond HIV care was limited, even at integrated sites, by a range of contextual factors, including individual provider, interpersonal, infrastructural or systems, and institutional factors. In particular, heavy client loads and perceived needs for fast care inhibited exploration of clients' holistic needs.

Discussion & conclusions: While integrated services offer opportunities to promote service uptake, this capacity can only be translated into health outcomes when a range of contextual contingencies are addressed. Promoting more client-centred continuity care may help facilitate this. Widespread assumptions that integrated services are better than stand-alone models have been challenged by this study: a well-run stand-alone site can achieve positive outcomes, including impacts on family planning needs and client satisfaction. PLWH should be able to choose a model of care that suits their particular situation and needs best.

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Lastly, I am indebted to the HIV positive clients who took time to be interviewed for this study. Their courage in the face of great adversity was remarkable and their open and honest narratives not only informed this study, but were truly inspiring for me. This thesis is dedicated to them, and to the memory of all those who have lost their life in Swaziland's destructive HIV epidemic.

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Acronyms

AHF	AIDS Healthcare Foundation
ANC	antenatal care
AMICAALL	The Alliance of Mayors Initiative for Community Action on AIDS at the Local level
aOR	adjusted odds ratio
ART	anti-retroviral therapy
CD4	cluster of Differentiation 4 (used to measure number of T cells expressing CD4) (cells/ µl)
cOR	crude odds ratio
DMPA	Depot medroxyprogesterone acetate (depo provera) injectable contraceptive
EGPAF	Elizabeth Glasier Pediatric AIDS Foundation
FLAS	Family Life Association of Swaziland
FP	family planning
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
HCTx	HIV care and treatment (services)
HPV	Human Papillomavirus
ICAP	International Center for AIDS Care and Treatment Programs
ICPD	United Nations International Conference on Population and Development
IDI	in-depth interview
IMAI	Integrated Management of Adult and Adolescent Illness (WHO)
IPPF	International Planned Parenthood Federation
LAM	lactational amennhorea method (of family planning)
LMICs	lower and middle-income countries
LMP	last menstrual period
LSHTM	London School of Hygiene & Tropical Medicine
MCH	maternal & child health
M&E	monitoring and evaluation
MMR	maternal mortality ratio
MoH	Ministry of Health
NERCHA	National Emergency Response Council for HIV/AIDS (Swaziland)
NGO	non-governmental organisation
OI	opportunistic Infection
OPD	Out-patient department
OR	odds ratio
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PDA	personal digital assistant

PHC	primary health care
PHU	public health unit (Swaziland)
PITC	provider-initiated testing and counselling for HIV
PLWH	people living with HIV/AIDS
PMTCT	prevention of mother-to-child transmission of HIV
PNC	postnatal care
PSI	Population Services International
PSM	propensity score matching
RCT	randomised controlled trial
RH	reproductive health
RTI	reproductive tract infection
SDHS	Swaziland Demographic & Health Survey
SNAP	Swaziland National AIDS Programme
SRH	sexual and reproductive health
SRS	systematic random sampling
STI	sexually transmitted infection
TB	tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
US	United States
USAID	United States Agency for International Development
VCT	voluntary counselling and testing for HIV
WLWH	women living with HIV/AIDS
WHO	World Health Organization
95%CI	95% confidence interval

1. Introduction

1.1 Study background

Meeting the sexual and reproductive health (SRH) needs of people living with HIV/AIDS (PLWH) has become an important public policy imperative in many high HIV prevalence settings in sub-Saharan Africa over recent years (United Nations, 2006; Sibide & Buse, 2009). The need to prevent unintended pregnancies among people living with HIV (PLWH) has been emphasised as a critical and cost-effective component of strategies for the prevention of mother-to-child transmission of HIV (PMTCT) (WHO, 2004a; Reynolds et al., 2008), and the promotion of safer sexual behaviours among PLWH, including promoting condom use, has been seen as a critical strategy to prevent onwards transmission of the virus to uninfected sexual partners (WHO, 2008a). As HIV care and treatment (HCTx) programmes have grown in number and strength in the African region over the past decade, services have usually been delivered through vertical specialist or 'stand-alone'[1] models of care (Rabkin et al., 2009) and there have been calls within the HIV community to move beyond a narrow focus on anti-retroviral therapy (ART)[2] to address the wider health care needs of HIV-positive clients (Myer et al., 2005b; El-Sadr & Abrams, 2007). Addressing reproductive needs is considered particularly important as ever-increasing numbers of PLWH survive into and beyond their reproductive years, and many need support from health services to achieve their reproductive goals (Kaida et al., 2010).

The integration of SRH and HIV services has been promoted globally as a critical means to achieve these aims, and has been advocated for by United Nations agencies (UNFPA, 2004) and donors, including the United States (U.S.) Government and its President's Emergency Plan for AIDS Relief (PEPFAR) (Fleischman, 2006) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) (JSI, 2008). Integrated SRH-HIV services have been assumed to have distinct advantages over stand-alone models, including greater efficiency and cost-effectiveness (through reduced duplication of effort), enhanced service access and increased utilisation of separate service components, increased client satisfaction through the need to avoid multiple

[1] The term 'stand-alone' will be used in this thesis to describe services only offering one programmatic component, at any level of care. The term 'specialist' is frequently used to denote a higher level of medical care, and is associated with secondary or tertiary care delivery.
[2] Within this thesis, the term ART is used to refer to Highly active ART (HAART).

queues or clinic visits, improvements in health outcomes due to greater and higher quality service access, and in the case of HIV, a reduction in service-related stigma through the delivery of care in more generalist health care settings (Fleischman, 2006; AIDS Alliance, 2011). Integration, to quote the Director of Joint United Nations Programme on HIV/AIDS (UNAIDS), is therefore "intuitively appealing" (Sibide & Buse, 2009 p.806).

Yet service integration may have unintended and unwanted consequences if it leads to overloading health workers or reduces their capacity to deliver the specific technical aspects of individual service components (Lewin et al., 2008). Early experiences with integration within the SRH community, primarily integration of sexually transmitted infection (STI) management and HIV voluntary counselling and testing (VCT) into family planning and maternal and child health (MCH) programmes, documented challenges in achievement of integration goals (Dehne et al., 2000; Lush et al., 2001; Askew & Berer, 2003). It was suggested by some that the policy rhetoric on integration was often at odds with a complex service delivery reality in lower and middle-income countries (LMICs) (Lush et al., 1999). Integration of HIV services into more generalist primary health care (PHC) settings (often framed within a 'decentralisation' discourse) has also been noted as particularly challenging due to the complex health care needs of PLWH (El-Sadr & Abrams, 2007).

This thesis will attempt to explore the process of SRH-HIV service integration in Swaziland, a small Southern African nation with the world's highest HIV prevalence (estimated at 26% in the adult population (CSO, 2008)). HCTx services have been rapidly scaled-up there over the past decade, and until recently were implemented under a verticalised service delivery system, parallel to the existing PHC system (PEPFAR, 2010). This has resulted in a system of more specialist HCTx units or departments within larger facilities, or within stand-alone clinics (Integra, 2009). Integration of HCTx into all aspects of health service delivery, including greater integration between SRH and HIV programmes, has thus been emphasised as an important priority for the Ministry of Health (MoH) (MOHSW, 2007a; Phakathi, 2009).

While a body of evidence is now accumulating on the SRH needs of PLWH, including on their fertility intentions and contraceptive practices, reviews demonstrate persistent research gaps on the effectiveness and processes of service integration (Church & Mayhew, 2009; Spaulding et al., 2009; Kennedy et al., 2010; Dudley & Garner, 2011). In particular, there is a dearth of evidence on strategies to meet the SRH needs of clients enrolled in HCTx services, and those that have attempted to do so usually fail to explore the process of service integration in the context of the region's often busy and under-resourced primary care system. Furthermore, few

studies have explicitly compared integrated and stand-alone models, and those that have done so have not examined models that aim to meet the SRH needs of PLWH in HCTx programmes (Rosen et al., 2008; Stinson et al., 2010).

1.2 Study aims and objectives

This thesis will address these evidence gaps by presenting a comparative case study of four different models of HCTx accessible at the primary level of care[3] in one town in Swaziland. Employing mixed quantitative and qualitative methodologies, the study aims to compare health care processes and outcomes across two integrated SRH-HIV sites and two stand-alone HIV clinics, summarised in Figure 1.1.

The clinics, labelled A to D, represent a continuum of integrated care: Clinic A is the most integrated, with all services theoretically available through one provider in one room within the facility (provider-level integration); Clinic B is partially integrated, with the different components of SRH and HIV care available in different rooms within one facility (facility-level integration); Clinic C is a stand-alone HCTx unit located on a hospital campus (a separate building); and Clinic D is a fully stand-alone clinic offering only HCTx and VCT services.

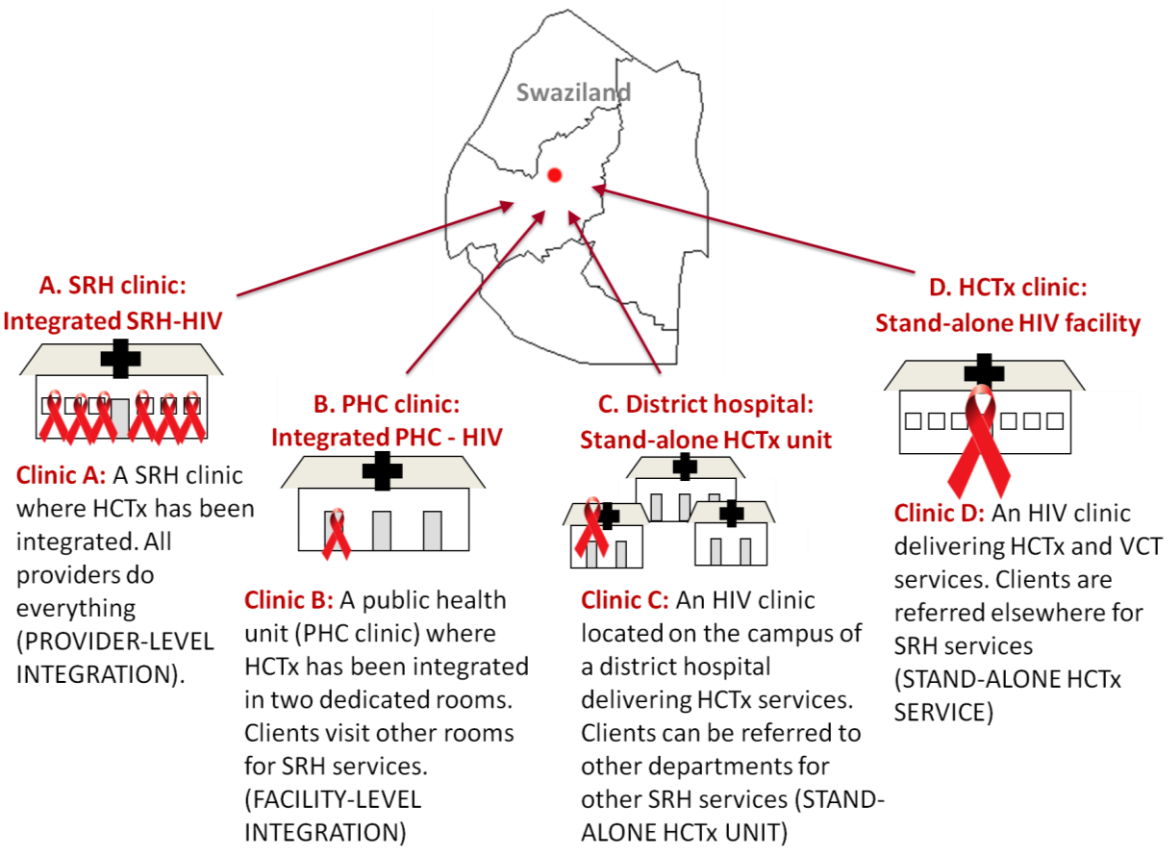
The thesis aims to meet the following specific objectives:

1) To review the existing body of literature on SRH-HIV service integration in sub-Saharan Africa and strategies to meet the SRH needs of PLWH
2) To describe the characteristics, populations and structure of the four case study clinics, including the extent of current service integration
3) To investigate the family planning practices and needs of PLWH attending HCTx services at the four clinics
4) To investigate whether integrated care is associated with uptake of SRH services and unmet needs for family planning
5) To investigate whether integrated care is associated with client satisfaction and HIV-related stigma
6) To explore the contextual factors influencing the delivery of integrated services within HCTx settings

[3] For the purposes of this thesis, primary care is understood to imply a first point of contact with the health system.

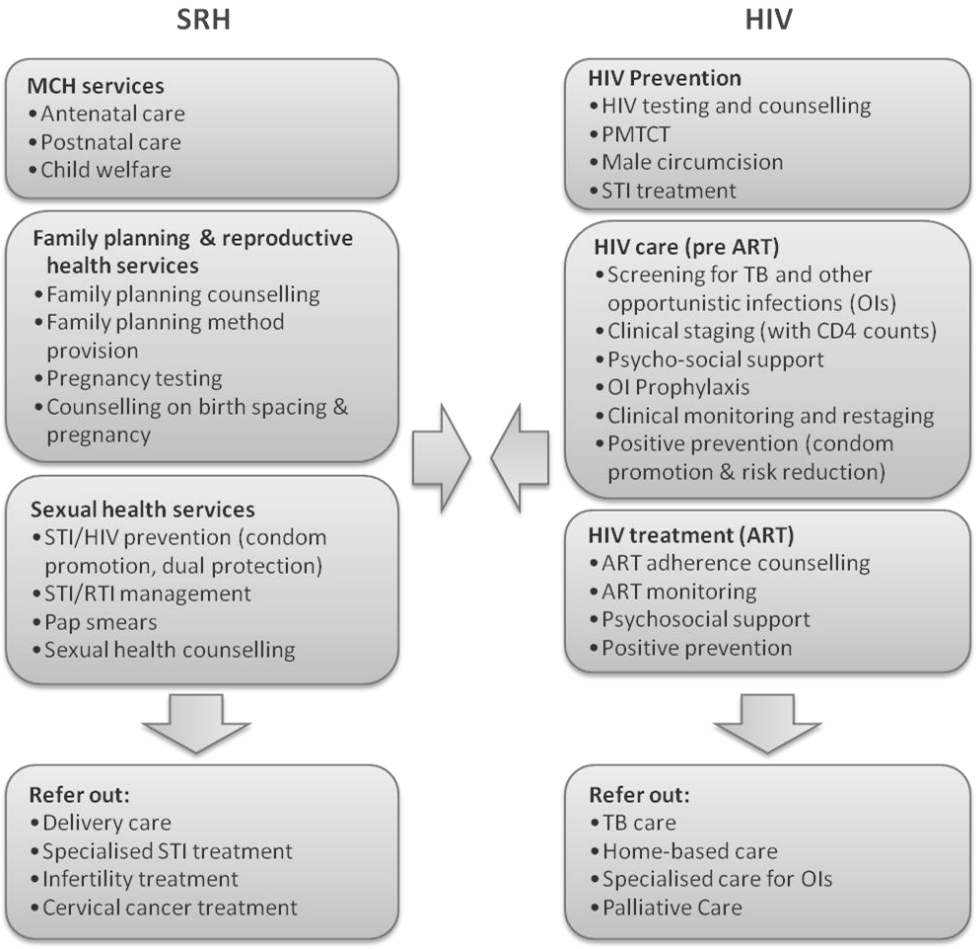
Specific research questions under each objective are detailed in Table 1.1 on page 26.

Figure 1.1: The four case study clinics



In Swaziland, SRH at the primary level of care is comprised of a range of component services, including family planning, MCH (including antenatal and postnatal care (ANC and PNC) and child welfare services), STI management, and cervical cancer screening. HIV services include HIV prevention, pre-ART care and ART services. The various service components are depicted graphically in Figure 1.2. The study objectives focus on the family planning needs of PLWH and how these are being addressed through service integration, but this is interpreted broadly to include not only needs for contraception, but also counselling on reproductive intentions and pregnancy, and the provision of preventive counselling and condom promotion for PLWH ('positive prevention'). While broader SRH needs are considered, including access to STI services and cervical cancer screening, they do not form an important focus of the thesis. The 'index' service under consideration is therefore HCTx, and the study will investigate how different models of care are responding to the SRH needs of clients attending for this service.

Figure 1.2: SRH-HIV service components within Swaziland primary care



Note: Abortion is illegal in Swaziland except to save the life of the woman, and therefore not available at primary level of care. Primary SRH services also do not address gender-based violence in Swaziland.

1.3 The research context

1.3.1 Swaziland context

The Kingdom of Swaziland (see Figure 1.3) is a small land-locked country in Southern Africa with a population of nearly 1.2 million (UN, 2009). It has an adult population HIV prevalence of 26%, and a peak prevalence of 49% among women (aged 25-29), and of 45% among men (aged 35-39) (CSO, 2008). Once classified as a middle-income country (in the 1990s), the country is now in the midst of a national health emergency caused by the HIV epidemic, which has seen life expectancy fall from 58 years in 1993 to 32 years in 2000-05 (Whiteside et al., 2007). 69% of the population live on less than one dollar a day (UNDP, 2006).

Figure 1.3: Map of Swaziland

Source: Reference Wiki

Within a small geographic area (17,364km^2), the virus is dispersed throughout the whole country, with prevalence nearly as high in rural areas as in urban (PHR, 2007). Over 70% of the population has been classified as 'rural' (CSO, 2008), but four out of five people live within 8km of a health facility (offering at least ANC) (Whiteside et al., 2007).

As with other countries in the region, the epidemic is driven by high risk heterosexual intercourse, including high rates of multiple partnerships, in particular among men; intergenerational sexual transmission; polygamy; high mobility both within Swaziland and into South Africa; high rates of STI incidence; and exchange of sexual intercourse for food, money or other resources (USAID & FHI, 2002; PHR, 2007). These factors are underlain by a socio-cultural context of severe gender inequality and discrimination against women (PHR, 2007). Related to these gender norms, sexual and gender-based violence are highly prevalent, with one in three Swazis reporting a case of sexual violence before the age of 18, and one in 20 reporting coerced intercourse (Reza et al., 2009). HIV-related stigma and discrimination also remain pervasive in Swazi society, despite the very high disease prevalence, including in the community, in the workplace, within families, and by sexual partners (PHR, 2007; Greeff et al., 2008; Root, 2010;

Shamos et al., 2009). Stigma also forms an important barrier to access to testing, disclosure of status and to HIV treatment services (NERCHA, 2009a).

There have been rapid increases in access to HIV services over recent years: at the time of this study (2009), the number of PLWH on ART had increased from 32,701 people (end of 2008) to 47,241 people at end of 2009, reaching over 80% of the estimated 56,000 people in need of ART (UNAIDS, 2010).[4] A clear gender divide exists, though, among those testing for HIV and subsequently accessing care; while 22% of women have been tested and know their results, less than half as many men have (9%),[5] and this may also be contributing to gender differentials in use of HCTx services; among those receiving ART by the end of 2009, 37% were male and 63% were female (UNAIDS, 2010). Many women are strongly encouraged to test for HIV during pregnancy, through a policy of provider-initiated testing and counselling (PITC) within ART, which goes some way to explaining this gap.

Some SRH indicators are more encouraging than those of HIV, with a falling total fertility rate, now at 3.8 births per woman, contraceptive prevalence at 51%, and a high ANC utilisation rate at 97% (CSO, 2008). But maternal mortality has increased dramatically along with HIV prevalence, and the maternal mortality ratio (MMR) now stands at 589 maternal deaths per 100,000 live births (CSO, 2008), a 59% increase since 1995 (recorded at 370/100,000 live births) (UNDP, 2003). And despite the high contraceptive prevalence, reproductive health needs go unmet. Total unmet needs for family planning documented in the recent Swaziland Demographic and Health (SDHS) survey reached 24%, and only 36% of births reported in the five years before the survey were wanted, the rest either mistimed (27%) or unwanted (37%) (CSO, 2008). Abortion also remains illegal (except to save the mother's life) which contributes to both unintended pregnancies and maternal morbidity and mortality (FLAS et al., 2008). STIs also remain a persistent challenge and are one of the top four conditions reported in outpatient clinics nationally (NERCHA, 2009a).

[4] 56,000 estimate based on initiation threshold from WHO 2006 guidelines. If estimate is based on the 2010 WHO Guidelines, with a less conservative ART initiation threshold, 59% of those in need were on treatment (UNAIDS, 2010).

[5] These testing data are derived from the last nationally representative survey, the 2006-7 Swaziland DHS report, and as such the figures are likely to be an under-estimate, due to significant efforts to increase access to HIV testing over the past 5 years.

1.3.2 Health systems context

Given the scale of the HIV epidemic in Swaziland, its impact on the health sector cannot be understated. HIV/AIDS cases consume 80% of hospital bed occupancy in the medical and paediatric wards (MOHSW & WHO, 2004), and the health workforce is suffering, not only in terms of illness-related attrition, but also due to the challenges of heavy workloads and burn-out (Kober & Van Damme, 2006). There are 0.2 doctors and 2.81 nurses per 1000 people (PHR, 2007), and a health worker attrition rate of 8% (HDA & JTK Associates, 2005).

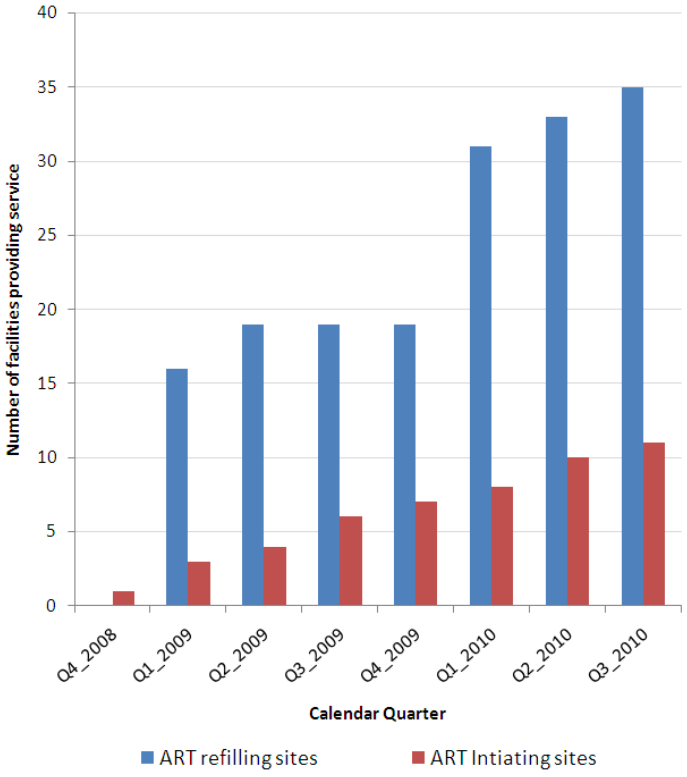
Primary care in the public sector is delivered through 162 rural clinics, 8 'public health units' (PHUs) (outpatient primary care clinics), 12 health centres (small rural hospitals with some in-patient capacity), and through the out-patient departments of tertiary hospitals (of which there are 7 nationally) (MOHSW, 2008). One hospital, in Mbabane (the capital), acts as a national referral centre. The private sector plays an important role, in particular for doctor-led care, with physicians in private practice accounting for 50% of all doctors, though few Swazis can afford to access private services (MOHSW, 2008).

The ART programme was initiated in January 2004 with supporting funding from the GFATM (MOHSW et al., 2006; Mngadi, 2007), and is now also sustained by PEPFAR (PEPFAR, 2010). Treatment services have been scaled up rapidly, and at the time of the study, ART was delivered within 12 facilities,[6] with further outreach to multiple smaller rural clinics providing ART refills (NERCHA, 2009b). Recent scale-up has been driven by increases in numbers of these refilling sites (see Figure 1.4). However, while close to 50,000 have been reported as on ART, more than one third of those initiating ART are lost to follow-up within the first 12 months of initiation, reportedly due to highly centralized services, ineffective adherence support and poor patient monitoring, and therefore this figure is likely an over-estimation (PEPFAR, 2010). The extent of the pre-ART programme has also been questioned by donors; while the MoH reports that 48,037 people have been enrolled in this programme, it has been noted that the actual services "are mostly sparse, un-coordinated, or not available at all" (PEPFAR, 2010 p.10). SRH services and VCT are more widely available across the majority of PHUs, health centres and hospitals (WHO et al., 2008a), but are coordinated by a separate department within the MoH. Again, quality of care remains a concern; for example, a WHO service availability mapping conducted

[6] The 2010 PEPFAR report cited gives a figure of 12 centres; a 2009 MoH report cites a figure of 27 sites (NERCHA, 2009b) offering full ART services. Based on the author's knowledge, the true figure is likely to fall somewhere in between.

in 2008 found only 7.8% facilities met the minimum criteria for family planning quality (having family planning guidelines available, at least one person trained, and having oral contraceptives and injectables available) (WHO et al., 2008a).

Figure 1.4: Quarterly increases in ART sites, Swaziland, 2008-2010



Source: Kamiru et al., 2010

Integrated services were first pursued by the SRH community in Swaziland, and the local affiliate of the International Planned Parenthood Federation (IPPF), the Family Life Association of Swaziland (FLAS), was the first clinic to develop an integrated approach to SRH care, first offering VCT and STI services, and more recently HCTx and male circumcision, in addition to its core of family planning and MCH services (Phakathi, 2009; FLAS, Draft). Service integration within the public sector until recently focused on the integration of PMTCT into MCH services. As of 2009, PMTCT was available in 62% of all health facilities, and 67% of all HIV-infected pregnant women (who knew their status) received a complete course of PMTCT prophylaxis (NERCHA, 2009a). Integration of HCTx with other generalist services is now being pursued as an important national strategy to decentralise ART from more urban centres in the hope of improving client retention and treatment adherence (NERCHA, 2009a). Addressing the SRH needs of PLWH has also been emphasised within national HIV strategy documents, including the

need for family planning to prevent unintended pregnancies among women living with HIV/AIDS (WLWH), the promotion of condoms for 'positive prevention', and STI management (NERCHA, 2009a). 'One-stop shops' within PHUs have also been promoted, as HCTx services are decentralised there from hospitals (Chouraya, 2007).

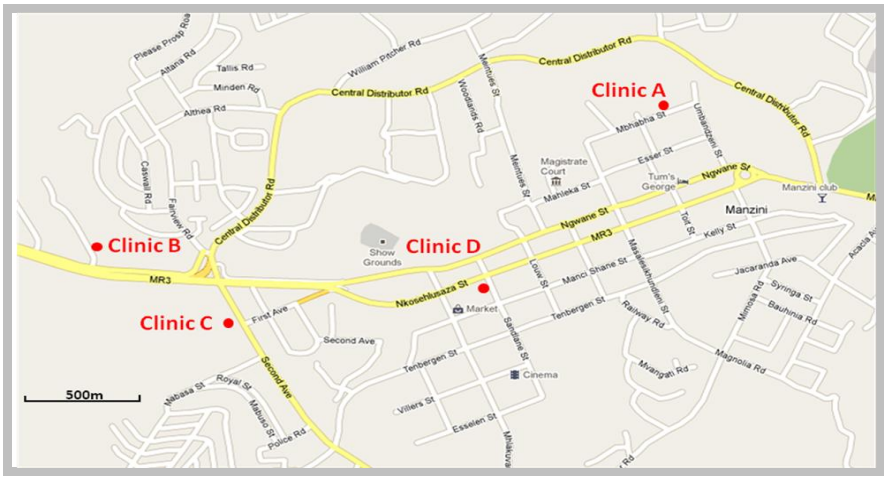
Swaziland therefore represents an interesting context in which to study SRH-HIV integration. The high HIV prevalence, substantial unmet needs for family planning, and inadequate delivery of prevention, testing and treatment services imply a need to rapidly scale-up access to these services through effective models of health care.

1.3.3 Study site

Manzini is the largest town in Swaziland, with a population of approximately 95,000 inhabitants in the urban/peri-urban area (USAID & FHI, 2002), and total of 319,530 in the larger administrative region (NERCHA, 2009b). Although not a capital city, it is the commercial and industrial centre located geographically in the heart of the country (see Figure 1.3). HIV prevalence in the Manzini region is similar to the national average, at 25% among adults (CSO, 2008). All four case study clinics are located within the urban centre of Manzini (see Figure 1.5).

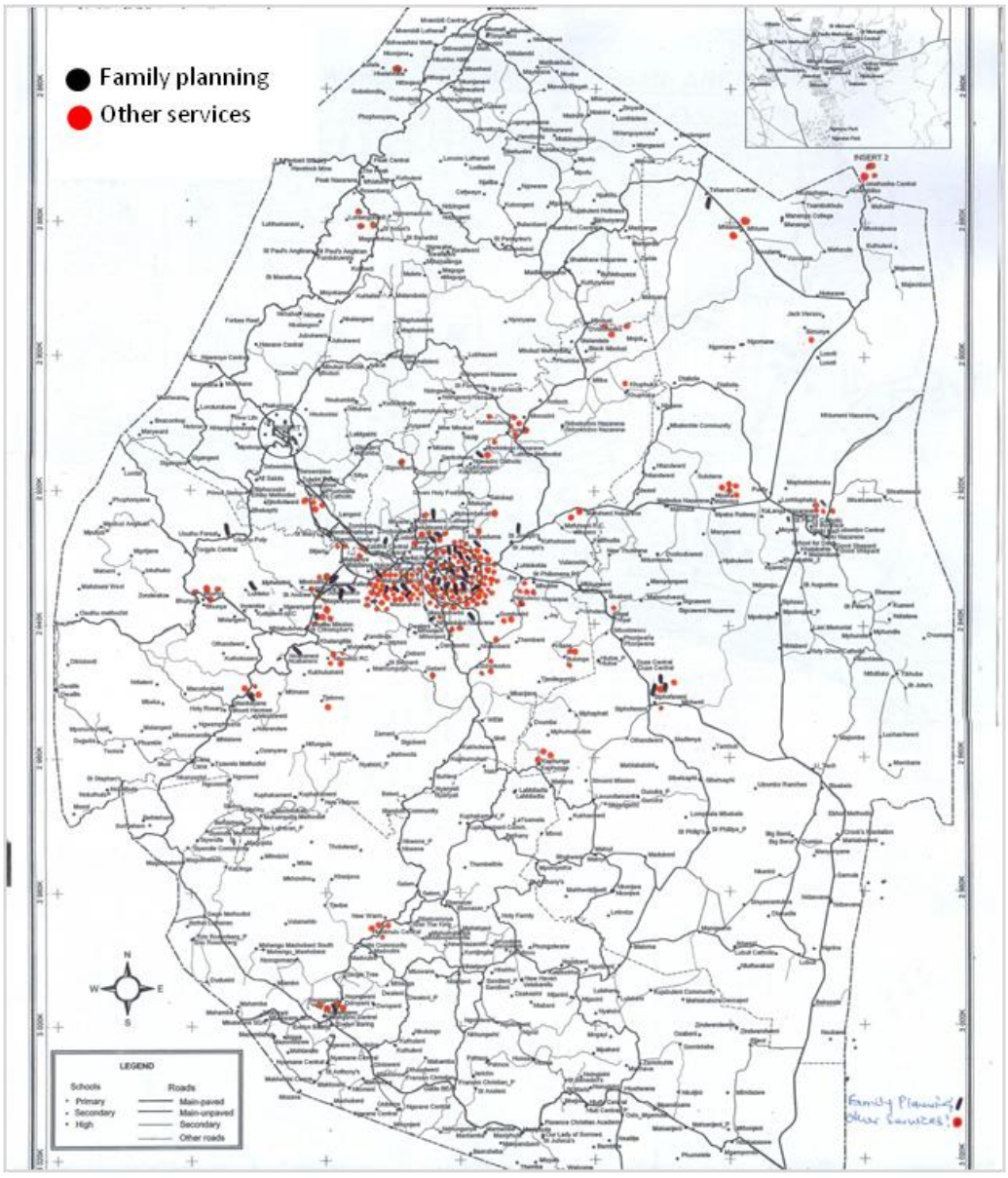
Being centrally located, clinics in Manzini attract clients from throughout Swaziland. This is particularly true for more specialist services (including ART) that clients may not be able to access at lower levels of care. In addition, HCTx clients may travel there for anonymity reasons. Managers report, however, that the majority of clients come from urban and peri-urban areas around Manzini. Figure 1.6, for example, shows the catchment population of Clinic A for a one year period, which was reported as fairly typical for Manzini clinics.

Figure 1.5: Map of Manzini centre, showing the four study clinics



Source: Google Maps

Figure 1.6: Catchment population of Clinic A from the national geographic area (2008)



Source: Clinic A data management team

1.4 Structure of the thesis

Chapter 2 reviews the existing literature on service integration, as well as studies documenting the SRH needs of PLWH in the region. Chapter 3 reviews relevant theoretical frameworks on the organisation of health services, health service access and utilisation, and policy implementation, and presents a conceptual framework to guide the study design and analysis. Chapter 4 then presents the methodology used for the study.

There are five results chapters, and the specific objectives and research questions addressed in each are summarised in Table 1.1. Chapter 5 presents a description of the four case study clinics, including their structure, client populations and current extent of service integration. This includes both quantitative and qualitative data. Chapter 6 reviews the family planning situation and needs of the clinic populations, including information on contraceptive use patterns, fertility intentions, condom use and unmet needs for family planning. It uses quantitative data to describe the patterns, and qualitative data to help explain them. Chapter 7 presents quantitative data on uptake of SRH services at the clinics, and uses multivariable logistic regression to test the association between clinic model and use of family planning services (contraceptive counselling, condom provision and pregnancy counselling), as well as between clinic model and unmet needs for family planning. Chapter 8 presents findings on the relationship between service integration and both client satisfaction and HIV-related stigma. Mixed methods are used, with quantitative data describing patterns in satisfaction and stigma, as well as testing their association with clinic model through multivariable analysis; and qualitative data exploring how and whether satisfaction and stigma are related to integration. Lastly, Chapter 9 presents qualitative findings on the contextual factors influencing service integration.

Finally, Chapter 10 presents a discussion of the findings, reflecting on current literature and debates in the field of SRH and HIV policy in sub-Saharan Africa.

1.5 Role of the candidate

This study forms one component of a five-year operations research programme evaluating the integration of SRH and HIV services in Swaziland, Kenya and Malawi, the Integra Project. The study is being conducted by the London School of Hygiene & Tropical Medicine (LSHTM), the Population Council and IPPF, with the aim to strengthen the evidence on the benefits and costs of a range of health care models for delivering integrated HIV and SRH services in high- and medium-prevalence HIV settings. In Swaziland, Integra partners are FLAS and the MoH, with research activities involving studies on the integration of HIV into postnatal care (PNC) services (in public Ministry of Health (MoH) facilities), fully integrated SRH services (at FLAS), an economics evaluation on the costs and cost-effectiveness of different models of service delivery (in all sites), and a community survey on health service utilisation patterns in the Manzini region.

Table 1.1: Overview of research objectives and questions in results chapters

Research Objective	Research Questions
2. To describe the characteristics, populations and structure of the four case study clinics, including the extent of current service integration (Ch.5)	2.1 What are the characteristics of the four clinics? 2.2 Who are the users of the four clinics and how do user profiles vary across site? 2.3 What is the actual model of care at each site (integrated vs stand-alone)?
3. To investigate the family planning (FP) practices and needs of PLWH attending HCTx in Manzini (Ch.6)	3.1 What is the FP situation and needs of PLWH attending HCTx, and do these vary by clinic? 3.2 What factors influence clients' use of FP services?
4. To investigate whether integrated care is associated with uptake of SRH services and unmet needs for family planning (Ch.7)	4.1 Are clients accessing SRH services, and how are they accessing them? 4.2 Are there missed opportunities for delivering SRH care to clients in ART? 4.3 Is model of care associated with FP service uptake and unmet needs for family planning?
5. To investigate whether integrated care is associated with client satisfaction and HIV-related stigma (Ch.8)	5.1 Is model of care associated with client satisfaction and service-based stigma? 5.2 How is satisfaction conceptualised within HIV care and does this relate to service integration or specialisation? 5.3 How do clients and providers perceive service-related stigma within ART clinics?
6. To explore the contextual factors that influence the success of service integration in clinics (Ch.9)	6.1 What are the contextual factors influencing the capacity of clinics and providers to deliver integrated services?

This sub-study on integration of SRH with HCTx services forms one sub-component of the Integra study in Swaziland, and has been partly funded by the project. The candidate independently led and/or conducted the research design, data collection, and analysis for this study component. This included the literature review, questionnaire design, qualitative topic guide design, training of research assistants to conduct qualitative interviews, recruitment and supervision of transcribers, training of research assistants to conduct the quantitative survey, data cleaning, qualitative data analysis, and quantitative data analysis and interpretation of the results. She worked with an IT programmer to design the questionnaire format for use on personal digital assistants (PDAs).

1.6 Ethical clearance & funding

Ethical approval for the study was obtained from the Ethical Committee at LSHTM (approval no. 5436) and from the Swaziland Scientific Review Board (approval no. MH/139).

The candidate was supported for her doctoral research by a joint studentship from the Economic & Social Research Council and Medical Research Council of the United Kingdom. They also supported two components of fieldwork: in-depth interviews with providers, and the first round of in-depth interviews with clients. The Integra project financed follow-up interviews with clients, and the exit survey; this was funded by the Bill and Melinda Gates Foundation.

2. Literature Review

Introduction

This chapter reviews existing literature on the integration of SRH and HIV services. The first part starts with an overview of service integration, its meaning, and its history in the health sector in sub-Saharan Africa. The second part reviews literature on the SRH situation and needs of PLWH in the region, including their reproductive goals and intentions, their contraceptive practices and their sexual behaviours, since this forms an important basis from which to examine service responses to these needs. The third part reviews studies on the process of service integration, including the role of health care providers in delivering integrated care, and systems factors influencing integration success within health services in LMICs. The last part presents a review of evidence of integration (either HIV/STI into SRH services, or SRH into HIV services) in impacting on service-related and health outcomes. These include impacts on quality of care and client satisfaction; on HIV-related stigma; on uptake of services; and on behavioural and health outcomes.

2.1 Methodology

This review is based on a comprehensive search of the literature on SRH-HIV integration, and service integration more broadly, with an emphasis on studies from sub-Saharan Africa, particularly Southern Africa. An initial systematic review was conducted in 2007-08, focused on the integration of STI or HIV services into family planning programmes, and was published in 2009 (Church & Mayhew, 2009). That 2009 review is synthesised (and updated) here with other evidence on the integration of SRH with HIV services, including integration of SRH into VCT and HCTx services, and integration of HCTx within PHC. The focus of the evidence presented will be on family planning, condom promotion for positive prevention, and counselling on pregnancy and fertility intentions, due to the focus of research objectives in the thesis.

This review focuses on health care processes and health-related outcomes of integrated care; it does not include literature on the economic efficiency and cost-effectiveness of service integration, which could be an important health sector benefit of integrating SRH and HIV services (Church & Mayhew, 2009; Sweeney et al., 2011). Cost-effectiveness is being investigated within other components of the Integra project. It is also important to highlight that several systematic reviews on service integration have been conducted in recent years,

including SRH-HIV integration (Kennedy et al., 2010), and specifically family planning-HIV integration as a sub-component of that review (Spaulding et al., 2009), as well as two Cochrane reviews on all types of PHC integration (Briggs & Garner, 2006; Dudley & Garner, 2011). Since these reviews are limited to peer-reviewed publications (i.e. excluding the grey literature), present only evaluation data with either pre/post or multi-arm comparisons, and are not focused on sub-Saharan Africa, a separate review was conducted for this thesis. Some of the studies included overlap, however.

2.2 The integration of services: an overview

2.2.1 Defining integration

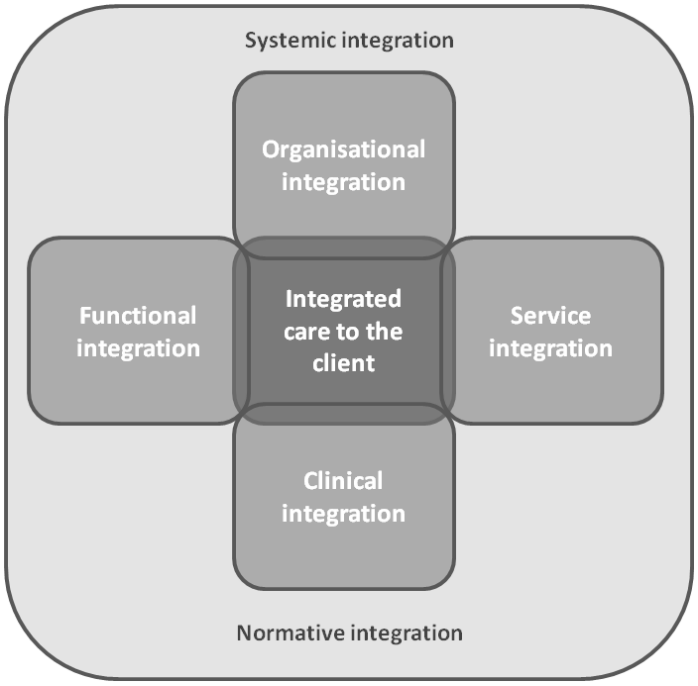
Integration in the health sector can be understood as both a process (the action of integrat*ing*) as well as an outcome in itself (integrat*ed* services). The former implies bringing together two or more components of care that were previously separate, resulting in a range of organisational changes to service provision (Briggs & Garner, 2006). The concept of integrated care, on the other hand, is often equated with comprehensive and holistic PHC (WHO, 1996; Criel et al., 1997). Such a conceptualisation posits 'horizontal' integrated care against 'vertical' specialised or stand-alone health programmes.

Vertical programmes often result from political decisions that recognise the importance of specific health problems based on epidemiological, economic, social, cultural or political criteria (Criel et al., 1997). They are derived from vertical analyses, which see one health problem as independent of others, and have been associated with a more medicalised model of infectious disease control (Mills, 1983). Vertical approaches have been successful in controlling particular diseases (such as smallpox), in managing groups of linked health problems (such as diarrhoeas), in managing the health problems of key sub-populations (such as mothers and children), or in structuring activities (such as vaccinations) (Criel et al., 1997). Attractive to donors, they are usually well-funded through extra-budgetary resources, closely managed, with specific objectives and highly qualified personnel (Mills, 1983; Oliveira-Cruz et al., 2003). They are therefore, however, often responsive to diseases and not to the wide-ranging needs of service users (Atun et al., 2008).

Service integration has been seen as a tool to overcome fragmented health management within a system of vertical disease-specific programmes (WHO, 1996). It has varying definitions and interpretations, and involves actions at both policy and service-delivery levels (Druce & Nolan,

2007). In LMIC contexts, it is usually understood to imply the amalgamation of two previously separate components of care, or the additional of a new intervention into an existing service (e.g. adding VCT to family planning services) (Ekman et al., 2008). In more developed country settings, it is often interpreted as a mechanism to improve the coordination of care between different organisations and professional bodies at different levels of the health system, for example through the creation of clinical care pathways (Curry & Ham, 2010). Providing integrated clinical care to the patient ('normative integration') is also dependent on 'systemic' integration. Curry and Ham usefully outline four different types of integration that need to occur to deliver integrated care to the client (see Figure 2.1). 'Functional' integration implies the integration of non-clinical support and back-office functions (e.g. patient records); 'organisational' integration implies bringing different organisations together through mergers or by contracts between separate organisations; 'service' integration implies bringing together different clinical services within an organisation; and 'clinical' integration implies delivering care to a patient in a single coherent process within or across professions (Curry & Ham, 2010).

Figure 2.1: Typologies of integrated care



Source: Curry & Ham (2010) originally adapted from Fulop et al. (2001)

In the context of overcoming vertical disease programmes in LMICs, 'bundling of services' (Becker & Leitman, 1997) or delivering 'service packages' (Tolle, 2009) have also been interpreted as forms of integrated care (e.g. the Integrated Management of Childhood Illnesses package). It has also been categorized as 'temporal', implying integration in time so that a client

can access any type of care at each contact with the health service; 'spatial', with all services provided by the same team but perhaps at different points in time (Criel et al., 1997); or as a 'continuum', implying continuity of care over the life-course (Mitchell et al., 2004). Integration may also be 'responsive', with clients taking the initiative to demand additional services, or 'active', with providers assessing possible health needs over and above the presenting problem (Maharaj & Cleland, 2005). This last also implies what has been termed 'cognitive integration', with providers enabled to think beyond a presenting condition (Zwarenstein et al., 2011). For some, the creation of 'linkages' (or perhaps more accurately, referral mechanisms) between different levels of care constitute a type of integration (Askew, 2007; Ekman et al., 2008).

It is clear, therefore, that integrated care implies either having multi-purpose staff, a multi-purpose team and clinic (also termed 'multifuctional' health care delivery (Atun et al., 2008)), or an effective referral mechanism to address a range of different health care needs. For the purposes of this study, integration will be considered as either 'provider-level' (also known as 'room-level' (Bradley et al., 2008)), meaning a range of component services are offered by one provider in one room; or 'facility-level' (also termed 'partial integration'), with clients internally referred within one health care facility for the different components of care with different providers, considered by some as integrated care as long as the provider actively encourages clients to use others during that visit (Fleischman Foreit et al., 2002). External referral for other services will not be considered as part of integrated care here, in order to retain conceptual clarity.

2.2.2 SRH-HIV integration

Within the field of SRH in LMICs, service integration has been pursued as a policy objective since the early 1990s. A desire to shift the public health paradigm from family planning, and its associated 'population control' label, to a more inclusive SRH and rights agenda (Hartmann, 1995; Singh, 1998), resulted in the Programme of Action of the International Conference on Population and Development (ICPD) in 1994 (United Nations, 1995). Signed by 179 countries, the programme embraced a more holistic model of health care centred on the broad-ranging health needs of a diverse client group. An initial focus on the integration of HIV prevention and testing services into family planning and MCH services in the mid 1990s (Vernon et al., 1990; Mayhew, 1996), resulting in the rebranded reproductive health (RH) or SRH programme (Askew & Berer, 2003), was followed by a drive to also integrate PMTCT services within MCH (Rutenberg et al., 2002).

The vision of integrated SRH care articulated at the ICPD, however, faced challenges in its implementation within chronically under-funded health systems in developing countries. In the late 1990s, evidence began to emerge of the difficulties confronting RH services in expanding beyond their service focus and their traditional client base of married women (Lush et al., 1999; Askew & Maggwa, 2002; Caldwell & Caldwell, 2002; Fleischman Foreit et al., 2002). Programmes lacked the capacity to develop feasible, acceptable, effective and cost-effective strategies, in particular for delivering STI management (Dehne et al., 2000; Askew & Berer, 2003).

Within the field of HIV/AIDS policy and programming, the impetus to rapidly scale-up access to HIV treatment in the early 2000s led to the predominance of vertical HIV/AIDS programme structures and stand-alone HIV services in many high prevalence countries in Africa (Rabkin et al., 2009; Topp et al., 2010). While this rapid service proliferation was successful at getting large numbers of PLWH onto treatment (UNAIDS, 2010), concerns emerged early on about both the sustainability of such an approach, the potential duplication of effort and services, as well as the impact of mass investment in one disease on the broader health system (Criel et al., 1997; Buvé et al., 2003; McCoy et al., 2005).

On the other hand, though, it was argued that massive investments in HIV represented a valuable opportunity to strengthen health systems (Lawn et al., 2008; Rabkin et al., 2009), and integration with other health services was seen as an important mechanism to achieve this (Tollman et al., 2008; Coovadia & Bland, 2008; Lawn et al., 2008). Since HIV had, until recently, been delivered through specialist secondary or tertiary centres, integration of HCTx services with PHC was framed within 'decentralisation' policies, as well as strategies to task-shift care to lower cadres of health workers (Gilks et al., 2006; Zwarenstein et al., 2011). This is particularly relevant in Swaziland where the MoH included decentralisation into PHC as part of its national strategic plan in 2007 (MOHSW, 2007a).

The success of ART in prolonging life, transforming the condition from an infectious disease into a chronic condition requiring continuity of care over the life-course, also implied the need to address the 'multiplicity' of clinical and psycho-social needs of PLWH (El-Sadr & Abrams, 2007). There have also been concerns that service fragmentation, implying separate visits for multiple problems, would impact on patient adherence and follow-up (Zwarenstein et al., 2011). Therefore, a vertical approach was itself considered inappropriate for PLWH (Tollman et al., 2008; Carlolus, 2009), and the need to provide comprehensive care for HIV-related infections has also been highlighted in Swaziland (Kamiru et al., 2010). Integration between HIV and TB services has been an important priority internationally and in Southern Africa, due to the co-

infection implications of the two diseases (Coetzee et al., 2004; Wood, 2007). But others have highlighted the need to provide a wide range of services to this population, including SRH services, as well as services for mental health, nutrition, malaria, cardio-vascular disease, and diabetes (El-Sadr, 2009; Tolle, 2009). The need to deliver a family approach to offer care continuity to children or partners has also been highlighted (Tolle, 2009).

Addressing the SRH needs of PLWH has been highlighted as an important area of concern for HIV programmes, both by leaders of the HIV community (Fleischman, 2006; Sibide & Buse, 2009) and of the SRH community (UNFPA, 2004; Wilcher et al., 2009). The rationale for this is four-fold.

Firstly, preventing unintended pregnancies among WLWH has been found to be one of the most cost-effective ways of preventing HIV infection in infants (Sweat et al., 2004; Reynolds et al., 2006), partly because unintended pregnancies account for up to over 50 percent of births in countries where HIV prevalence is highest (Reynolds et al., 2008). This also applies in Swaziland where, as noted in Chapter 1, many women have unmet needs for contraception. The MoH's PMTCT operational plan therefore recognises the importance of family planning for PLWH, having an objective to offer family planning counselling to all WLWH by 2011, as well as to offer contraceptive methods to 90% of women (MOHSW, 2007b). Cost-effectiveness was also thought to be achieved through a reduced duplication of service management and delivery systems (Askew & Berer, 2003). Many international agencies issued statements supporting the promotion of integrated SRH-HIV programming following publication of evidence of the cost-effectiveness of family planning as an HIV prevention intervention, in the mid- to late-2000s (see Box 2.1).

Box 2.1: International & African policy documents on integrated SRH-HIV care

- Glion Call to Action on Family Planning and HIV/AIDS in Women and Children (WHO, 2004a)
- New York Call to Commitment: Linking HIV/AIDS and Sexual and Reproductive Health (UNFPA, 2004)
- Reproductive health strategy to accelerate progress towards the attainment of international development goals and targets (WHO, 2004c)
- World Summit Outcome (United Nations, 2005)
- Sexual and reproductive health & HIV/AIDS: a framework for priority linkages (WHO et al., 2005)
- UNGASS Political Declaration on HIV/AIDS (June 2006) (United Nations, 2006)
- The Maputo Plan of Action on Sexual and Reproductive Health and Rights (African Union Commission, 2006)

Secondly, ART has improved health and extended life and PLWH are living into and beyond their reproductive years (Kaida et al., 2010). PLWH have distinct SRH needs to the general population due to shifting reproductive goals over the course of illness and treatment continuum, specific eligibility issues for contraceptive use, and particular susceptibilities to SRH morbidities (Delvaux & Nostlinger, 2007). The outcomes of poor SRH, such as unwanted pregnancies, are also particularly stressful for those living with advanced HIV disease (Shelton & Peterson, 2004). Achieving a healthy spacing and timing of pregnancy is also considered particularly important due to the increased risks of adverse pregnancy outcomes in PLWH, including low birth weight, preterm birth and higher infant mortality (Brocklehurst & French, 1998).

Thirdly, promoting condom use among PLWH has been a key strategy for 'positive prevention', including preventing the acquisition of other STIs, including reinfection[7] with other strains of HIV and to prevent onward transmission of the virus to uninfected partners (IPPF, 2010; Allen et al., 2011). Sexual behaviour counselling (including promotion of condoms, encouragement of disclosure to sexual partners and promotion of partner testing) therefore forms an important part of ART adherence counselling, alongside advice on diet, drug-taking, and promotion of other healthy behaviours (WHO, 2006b; Bunnell et al., 2006b).

Lastly, the longitudinal patient contact of HCTx affords a unique opportunity for SRH, allowing providers to follow patients with ongoing RH problems that are unlikely to be resolved within one clinic visit, and to provide SRH care tailored to their clients' HIV status (Myer et al., 2005b; Yoder & Amare, 2008).

Despite this strong rationale, however, many HIV programmes in the region failed to provide SRH services to their clients in the initial scale-up of HCTx services (Shelton & Peterson, 2004) and the strategy still remains neglected within PMTCT and HIV programming (Myer et al., 2005b; Petruney et al., 2008; Wilcher et al., 2008). HIV services themselves remain disjointed; for example, a continuity gap between PMTCT programmes and access to full HAART for eligible women persists, as well as the separation of care for mothers, children and families in different locations (Abrams et al., 2007).

[7] Reinfection means either i) co-infection with another strain of the virus at the same time or within a month of the initial HIV infection, or ii) super-infection with a second HIV strain some time after the initial infection has become established (Shapiro & Ray, 2007). Concerns about 'superinfection' with HIV, that would imply the need for condoms even within sero-concordant monogamous relationships, have abated with a lack of evidence of risk (WHO, 2008a).

2.3 SRH behaviours and needs of PLWH

Understanding the context of client SRH needs is important in order to understand the service responses and integration strategies aiming to meet these needs. The sexual behaviour, reproductive intentions, contraceptive practices, and other SRH needs of PLWH will now be reviewed.

2.3.1 Sexual behaviours

At a population level, rising HIV prevalence can lead to reductions in sexual risk-taking (Gregson et al., 1998; Lewis et al., 2004), and this can also occur at an individual level following HIV testing (Weinhardt et al., 1999; Sweat et al., 2000; Allen et al., 2003; Keegan et al., 2005; Bell et al., 2006). Among those with a positive diagnosis, qualitative studies suggest loss of self-worth and dirtiness (Bell et al., 2007), as well as feelings of guilt, anger, ill-health and fears of infecting others which can all impact on sexual desires (Shapiro & Ray, 2007). Heath status has an important impact on psycho-sexual functioning (McGrath et al., 2011), specifically the side effect of lipodystrophy from ART drugs may result in sexual dysfunction (Richardson et al., 2006).

However, many PLWH improve rapidly on treatment and some longitudinal studies report increased sexual activity on ART (Eisele et al., 2009; Homsy et al., 2009). Most studies demonstrate that the nature of sexual activity is no more, or less risky when on ART. A cohort study in the region found that partner turnover dropped in the year before and around ART initiation, but then rose again, so that sexual risk-taking was the same two years before and two years after ART initiation (Shafer et al., 2011). In a South African cohort, there was a significant decrease in unprotected sex (at last sex) following ART initiation (Eisele et al., 2009). Most cross-sectional studies also find no increased risks (including sexual activity, numbers of sexual partners), or even decreased risks (higher rates of condom use with a spouse, increased disclosure rates, last sex act with main partner, and increased likelihood of access to STI treatment) (Moatti et al., 2003; Bateganya et al., 2005; Myer et al., 2007b; Kaida et al., 2008). Others also suggest high rates of sexual abstinence among WLWH (Kaida et al., 2008), and this may be more likely among ART users than non-users (Andia et al., 2009), though this may not always be deliberate abstinence, but rather situational, due to a lack of partners. While a time-series study in West Africa did demonstrate increased risky sex on ART (Diabate et al., 2008), the weight of evidence therefore suggests that ART programmes are having a beneficial impact in terms of positive prevention. However, it is important to note that reporting bias on sexual

activity may also increase among those on ART as PLWH become more exposed to counselling on sexual behaviour.

2.3.2 Reproductive behaviours

HIV has been shown to have important influences on the inter-related domains of fertility intentions and contraceptive practices. Recent reviews highlight large numbers of studies examining fertility desires of PLWH, as well as factors influencing them (Nattabi et al., 2009; Keogh, 2010). While different studies in different contexts with differing designs inevitably lead to a range of findings, in general studies suggest that fertility desires are reduced following a positive HIV test (Baek & Rutenberg, 2005; Adair, 2009; Elul et al., 2009; Heys et al., 2009; Kaida et al., 2011; Peltzer et al., 2009; Hoffman et al., 2008; Taulo et al., 2009; Yeatman, 2009). One multi-country DHS report included Swaziland (Johnson et al., 2009) and demonstrated the same trend. Qualitative and mixed methods studies suggest that reduced fertility desires are due to concerns about the impact of pregnancy on health, leaving orphans, caring for existing children, the risks of MTCT, risks of unprotected sex and reinfection, as well as prior experiences of having lost a child due to HIV/AIDS (Baek & Rutenberg, 2005; Nakayiwa et al., 2006; Cooper et al., 2007; Myer et al., 2007a; Orner et al., 2008; Forrest et al., 2009; Laher et al., 2009; Nduna & Farlane, 2009). WLHW often do not know the true MTCT risks, and many fear high risk, which also influences reproductive desires (Nakayiwa et al., 2006; Peltzer et al., 2009). PLWH may also be influenced by stigma; studies have documented strong community disapproval against childbearing among WLWH, even in high prevalence settings (Rutenberg & Baek, 2004; Myer et al., 2006; Heys et al., 2009), and WLWH are influenced by these negative social expectations (Cooper et al., 2007). They may also be influenced by health worker attitudes (see Section 2.4.1).

However, as HCTx programmes have been scaled up and PLWH gain raised hopes of life expectancy, the reproductive goals of PLWH are changing. Comparing those on and off ART (Cooper et al., 2009; Maier et al., 2009), looking longitudinally at PLWH's fertility desires over time (Homsy et al., 2009) or cross-sectionally by time on ART (Myer et al., 2007a), studies point to increased fertility desires among women on ART compared to HIV-infected women who are not yet on ART. And this seems to also be resulting in a higher pregnancy incidence after ART initiation (Myer et al., 2010). Qualitative and quantitative studies point to important upward socio-cultural pressures on fertility which can often outweigh HIV status considerations. These include the strong cultural values placed on fertility and childbearing, partners' childbearing intentions, fears of being left barren, children acting as a source of hope or financial support,

replacing children who died, giving existing children a sibling, the impetus to have children while health still permits it, and the potential reduction in stigma as pregnancy dispels suspicions of HIV positivity (Myer et al., 2005a; Cooper et al., 2007; Myer et al., 2007a; Cooper et al., 2009; Forrest et al., 2009).

2.3.3 Contraception

Related to these changes, HIV and ART also influence contraceptive practices. At a population level, increased use of condoms has been documented in response to risk of HIV infection (Lewis et al., 2004, Zaba and Gregson, 1998), in particular among young single women (Cleland & Ali, 2006). At the individual level, while some studies in the region have found no difference in family planning rates between positives and negatives (Baek & Rutenberg, 2005), or no changes as women sero-convert to positive (Blanchard et al., 2011), multiple other studies demonstrate higher rates of contraceptive use among WLWH, or increased uptake of contraception following a positive diagnosis (Lutalo et al., 2000; Bateganya et al., 2005; Hoffman et al., 2008; Elul et al., 2009; Heys et al., 2009; Johnson et al., 2009; Taulo et al., 2009; Kaida et al., 2010). These studies suggest this is usually due to higher rates of condom use, not other contraceptives, driven by fears of reinfection. A multi-country DHS analysis found higher rates of condom use in Swaziland compared to other countries: recently tested HIV positive women were 77% more likely to use a condom than HIV positive women who never received test results; and known positives were less likely to have an unmet need for family planning compared with those who were negative and did not know their status (aOR 0.67, $p<0.001$) (Johnson et al., 2009). Changes in contraceptive use are also related to pregnancy intentions and current level of parity; a longitudinal study among WLWH in Malawi found that contraceptive use only increased in those with children, and pregnancy incidence among those without children was over twice that of those with children (Hoffman et al., 2008).

Contraceptive use is also influenced by ART; one cross-sectional study in Uganda found higher rates of contraceptive use among those on ART than those yet to initiate treatment (Andia et al., 2009), and a multi-country mixed methods study found unmet needs for family planning were generally lower among HCTx clients (less than 20%) than VCT clients (ranging from 17 to 46%) (Adamchak et al., 2010). A longitudinal study in Nigeria found that condom use rose significantly with time on ART, from 14% pre-ART to 54% after 12 months of treatment (Akinyemi et al., 2010). However, results are not consistent across contexts: a cross-sectional study in South Africa found no significant differences in contraceptive use between those on ART and those yet to start treatment, and no association with duration of ART use (although the

sample size of those on ART over a year was very small) (Kaida et al., 2010). In general, though, relatively high rates of contraceptive use among PLWH (between 46-85%) have been identified among those on ART (Adair, 2009; Andia et al., 2009; Homsy et al., 2009; Peltzer et al., 2009; Kaida et al., 2010).

Contraceptive use is influenced by other behavioural and cultural factors. Disclosure of status has an important impact on capacity to negotiate condom use, in terms of PLWH's capacity to openly discuss sex and relationships, especially among casual partners (Eisele et al., 2009). Individuals in sero-discordant relationships (estimated to be one in three in a neighbouring South African province (Lingappa et al., 2008)) also have distinct needs; desires to have children can conflict with desires to protect HIV negative partners, causing great stress and tension (Rispel, 2009). Studies also suggest that WLWH have the same, if not greater, fears about contraceptive use and side-effects as negative women and concerns about efficacy specifically with pill-taking (Laher et al., 2009). Contraceptive discontinuation, a notable problem across sub-Saharan Africa more broadly (Hubacher et al., 2008), and switching are also high among WLWH using long(er) acting methods (IUD and hormonals) (Stringer et al., 2007). Several studies also point to low rates of dual method use, as low as 3.5% among rural positive women in Uganda (Heys et al., 2009) and at 34% among urban PLWH in Cape Town (Myer et al., 2007b). Condom use consistency is also influenced by relationship status: a study among ART clients in Cape Town suggested that those in relationships were 10 times more likely to report consistent use than those not in a relationship (Myer et al., 2007b).

Therefore, while some commentaries have emphasised high rates of unmet need for family planning among WLWH (Wilcher & Cates, 2010), in fact evidence suggests that contraceptive use is higher in this population than others, and sexual behaviours may be safer. Some authors have attributed higher contraceptive and condom use to repeated contacts with health professionals (Andia et al., 2009; Kaida et al., 2010).

Several studies also report data on service responses to SRH. A study in Johannesburg found that, while less than half of ART clients had discussed hormonal contraception with providers, 94% had discussed condoms with them (Schwartz et al., 2011). PMTCT programmes in South Africa have been found to be particularly effective, with almost all women in one large sample, positive and negative, receiving counselling on family planning after pregnancy, and 76% receiving counselling on safe sex (Peltzer et al., 2009). Nevertheless, studies still demonstrate gaps. Many PLWH lack sufficient information about contraception and parenting options (Cooper et al., 2007; Orner et al., 2008). They specifically desire options for pregnancy

prevention when partners refuse condoms (ACQUIRE, 2008). Studies within HIV care services in Cape Town and Johannesburg found that less than one in five women had discussed their fertility intentions with a provider, though discussion rates were higher in ART than in PMTCT (Myer et al., 2007a; Cooper et al., 2009; Schwartz et al., 2011). Studies conducted during the first years of ART roll-out also suggested that access to SRH was focused around promotion of condoms, and sometimes other family planning methods, but rarely to the broader SRH needs of clients, including cervical cancer, abortion or partner violence (Shelton & Peterson, 2004; Myer et al., 2007b).

2.3.4 Other SRH needs

In addition to needs for contraception and condoms, other important SRH needs of those attending HCTx services have been highlighted.

While many women test positive during pregnancy, studies document substantial gaps in a continuum of care from testing to PMTCT and from PMTCT to HAART (Stinson et al., 2010), and this also pertains in Swaziland where PNC has not been adequately integrated with HCTx services (Warren et al., 2006). Women may also have desires to terminate unwanted pregnancy, and these are also influenced by changes in fertility intentions when women test positive in pregnancy. Many women testing in pregnancy arrive too late in ANC and have to carry their pregnancy to term (Delvaux & Nostlinger, 2007). Access to abortion services is illegal in Swaziland, and those wanting a termination must travel to South Africa. No studies were found that documented how services responded to the maternal health needs of those who have already been enrolled in HCTx services .

PLWH also have needs for STI services. HIV and reproductive tract infections (RTIs), including various STIs, frequently co-exist (Steen et al., 2009) and certain STIs, notably ulcerative and inflammatory ones, can increase infectiousness of HIV (Fleming & Wasserheit, 1999). Chronic, asymptomatic STIs, such as Herpes simplex virus 2 (HSV-2) and Chlamydia, can cause complications for PLWH, be transmitted to partners, and enhance sexual transmission of the virus (WHO, 2008a). Repeated STIs also challenge the immune system of PLWH (Shapiro & Ray, 2007). HIV infection may also aggravate the common sequelae of STIs including pelvic inflammatory disease, ectopic pregnancy, congenital infections, ano-genital cancers and infertility (Cohen, 2004). Other common non-sexually transmitted RTIs, such as candida vulvovaginitis and bacterial vaginosis, are also problematic for WLWH, increase risk of HIV transmission, and are associated with increased HIV viral loads in genital secretions (Cohen,

1998). Human papillomavirus (HPV), also sexually transmitted, leads to cervical cancer. In HIV-infected women, the risk of developing lesions on the cervix (cervical intraepithelial neoplasia) is four to five times greater than in the general population (Ellerbrock et al., 2000; Denny et al., 2008).

Partly related to high STI incidence, infertility is also a common problem for PLWH (Delvaux & Nostlinger, 2007). Fertility has been found to decrease with disease progression, primarily due to increased foetal loss during early stages of disease, then a reduced incidence of conception at later stages (Ross et al., 2004). Biological effects on fecundity and pregnancy include disruptions to ovulation and menstrual cycles (Clark et al., 2001), higher rates of foetal loss (Gray et al., 1998), and co-infections with STIs causing sub-fertility (Zaba & Gregson, 1998); as well as impacts on men's sperm counts, morphology and functioning, including among those on ART (Bujan et al., 2007).

Discordant couples who want to have children also have distinct SRH needs (WHO, 2006b); reproductive technologies (such as sperm washing or intrauterine insemination) have been shown to be effective in reducing risk of horizontal transmission to uninfected partners (Matthews & Mukherjee, 2009), but this remains unfeasible in resource-constrained settings, and such facilities are not currently available publically in Swaziland. While 'low tech' approaches can reduce risk, such as teaching about the fertile period or treating STIs, there is little or mixed evidence on the effectiveness of these approaches (Matthews & Mukherjee, 2009), and studies demonstrate that achieving very low viral loads are most likely to eliminate transmission risks (Quinn et al., 2000). It has been noted, however, that HIV programmes are not geared to meet the needs of discordant couples (Rispel, 2009). Other strategies include male circumcision and pre-exposure prophylaxis (Matthews & Mukherjee, 2009).

Finally, violence against women is another public health problem that SRH services can respond to, and it has been suggested that providing counselling and support on violence should be an integral part of the provision of basic SRH services for PLWH (Myer et al., 2005b). There is very limited evidence on health sector responses in violence in LMICs (Colombini et al., 2008), and no studies exist on strategies to address violence within HCTx programmes (Kennedy et al., 2010).

2.3.5 Other risk factors for reproductive outcomes

In addition to the effects of HIV or ART on fertility intentions, family planning use and pregnancy among PLWH, studies reviewed also suggest other important risk factors for these outcomes. These are important to consider for analyses presented in this thesis. Within a review of fertility

intention determinants (Nattabi et al., 2009), factors found to be associated with fertility intentions within sub-Saharan were younger age, knowledge of MTCT transmission risk, sex (with studies suggesting men are more likely to have higher fertility intentions), number of living children, being in a relationship less than five years, increasing duration of ART (among females), and beliefs about whether WLWH should have children (Nakayiwa et al., 2006; Myer et al., 2007a; Peltzer et al., 2009). Other recent studies found fertility intentions were associated with socio-economic status (SES), including living in informal settlements (Cooper et al., 2009) and financial dependency on a partner (Schwartz et al., 2011), as well as knowledge of partner status, and time on ART (with those on ART for longer less likely to be trying to conceive) (Schwartz et al., 2011). Family planning use among PLWH has been associated with geographic residence, parity and age (Keogh et al., 2009). Risk factors for incident pregnancy in PLWH identified in the literature were younger age, lower educational attainment, being married or cohabiting, having a male partner enrolled into the program, being in a shorter relationship with current sexual partner, failure to use non-barrier contraception, inconsistent use of condoms, having not experienced death of spouse, higher CD4 cell counts and higher body mass index (Homsy et al., 2009; Myer et al., 2010).

2.4 Process of SRH-HIV service integration

As previously noted, integration of services has been suggested as a critical means to meet these distinct SRH needs of PLWH. This section presents literature on the role of providers, and systems-level factors influencing delivery of integrated care.

2.4.1 Provider role & perspectives

Providers are the 'gatekeepers' to health care: their skills, knowledge, opinions, attitudes and advice strongly influence the services that clients receive (Shelton, 2001). This is particularly true for the delivery of SRH services to PLWH, where stigma plays a role, and service delivery may be strongly influenced by attitudes towards childbearing among PLWH (Harries et al., 2007a). Understanding the factors that influence motivation and performance is critical. First, literature on social interactions at service-delivery level influencing integration outcomes is discussed; then evidence on provider role in implemented integrated care is reviewed.

Social factors influencing provider behaviour

When considering provider responses, social factors clearly influence behaviour and motivation. Firstly, providers operate within a hierarchical medical culture, with strong norms for work routines, division of labour and rituals. Established routines and practices are hard to change, in particular when underlain by bureaucratic systems (Shelton, 2001). This culture values technical procedures but little attention is given to the softer aspects of communicating with clients. A 'task-orientation' to medical care has been documented in studies in Southern Africa (van der Walt & Swartz, 2002; Lewin & Green, 2009); when care is focused on routine procedures (such as weight check, blood tests, history form completion) the wider health and social needs of clients can be neglected. However, within the context of HCTx services, achievement of strong client-provider relationships is an important prerequisite to treatment adherence and retention in care (Myer & Akugizibwe, 2009). Some studies have suggested ART to be "breaking the mould of task-oriented nursing", with relationship-building now potentially an important part of nursing work (Stein et al., 2007 p.961), although other (still unpublished) studies suggest that routinised models persist in PHC in the region (Guise, 2011). Client- or patient-centered models of care, which emphasize appreciation of the client's experience of illness and the establishment of trusting and friendly provider-client relationships, shared decision-making, and continuity of care over time (Mead & Bower, 2000; Lewin et al., 2007), may therefore facilitate service integration (Church & Lewin, 2010).

Inter-professional relations between providers also play an important role in determining health care processes. Medical hierarchies have been found to inhibit the delivery of integrated care, with certain cadres of providers unable to perform certain essential tasks due to rigid hierarchical protocols (Mayhew, 2000). Formalistic communication between providers and lack of role definition can also inhibit collaboration and team-work (Reeves & Lewin, 2004), which is essential for integrated care. A study in the UK highlighted how the differing disciplinary foci of infectious disease and SRH medicine can obstruct effective integration; providers, in particular medical specialists, can fear loss of professional identity and status with integration (Kane & Wellings, 1999). The extent to which these findings are applicable in more generalist primary care settings in developing countries, however, is unknown.

Provider role in integrated care

Studies on integrated SRH-HIV care highlight challenges at the provider level. Reports document heavy workloads, staff burnout, high staff turnover and lack of incentives as important factors

impeding the delivery of an integrated care package (Mayhew, 2000; Mayhew et al., 2000; Gichuhi et al., 2004; Maharaj, 2004; Abera & Asnake, 2006; Kaba & Alem, 2006; PATH, 2007). Such challenges often exist even in settings where providers are, on the surface, supportive of integration (Banda et al., 2004; Maharaj, 2004). These problems may be a result of increased client demand after integration (though evidence of this is mixed) or challenges related to providing a more complex package of services. Lush suggests that problems usually arise when extra demands are made on providers without concomitant improvements in infrastructure, working conditions, salary or career structure (Lush, 2002).

Provider values and attitudes are fundamental when considering delivering SRH services to PLWH, and their discrimination is thought to be one of the major barriers to the promotion of WLWH's reproductive rights (Myer et al., 2005a). Influenced by stigma norms at the community level, providers' may have negative attitudes towards WLWH having children, or they can limit their clients' access to SRH services and inhibit discussions of fertility desires (Feldman & Maposhere, 2003; Cooper et al., 2007; Harries et al., 2007b; Orner et al., 2008; Nduna & Farlane, 2009; Hayford & Agadjanian, 2010). Studies have even documented encouragement of abstinence, forced sterilizations, encouragement of or coerced abortions (Asiimwe et al., 2005; Cooper et al., 2007; Mallet & Kalambi, 2008). Reports have also demonstrated negative attitudes towards sexuality of PLWH, resulting in failure to give complete information to clients (Bharat & Mahendra, 2007).

More recent studies suggest that this open discrimination may have been replaced by a more bio-medical approach, in which counselling focuses on the health risks of pregnancy at certain stages of disease progression, or with certain ART drugs (i.e. efavirenz) (Harries et al., 2007a; ACQUIRE, 2008; Hayford & Agadjanian, 2010). While such an approach is not antithetical to support for the realization of reproductive rights, as demonstrated in a South African study (Harries et al., 2007a), providers' medical concerns can still be overly restrictive. Providers may put medical or behavioural restrictions on certain methods of contraception for PLWH: they may fear the impact of hormonal contraception on ART efficacy[8] or believe that oral

[8] Provider concerns about the interactions between hormonal contraceptives and ART may be valid, since limited evidence suggests that interactions may alter the safety and effectiveness of both the hormonal contraceptive and the anti-retroviral drug (WHO, 2010a); nonetheless, international (WHO, 2010a) and South African guidance (DoH, 2001) has consistently stated that women with HIV can safely use all hormonal contraceptive methods, and this concern should not be a reason to deny the woman a method. Swaziland family planning guidelines were not reviewed since they have not been republished for many years.

contraceptives are inappropriate (Laher et al., 2009; Adamchak et al., 2010); they can restrict access to adolescents, and may believe nulliparous women should not use long-acting methods (Reynolds, 2006); they can shy away from promoting IUD use, due to fears of cervical infections (Bell et al., 2007; Adamchak et al., 2010); and they may be biased against all methods of contraception other than condoms (Agadjanian & Hayford, 2009; Andia et al., 2009; Adamchak et al., 2010). While some providers fear that methods other than condoms may encourage greater sexual activity in PLWH (Asiimwe et al., 2005), others believe that condoms are effective in preventing pregnancy (Reynolds, 2006). Some also have misunderstandings of the meaning of dual protection (Adamchak et al., 2007; ACQUIRE, 2008), and reinfection risks (Hayford & Agadjanian, 2010). Providers are also influenced by technical guidance; in Swaziland, national guidelines indicate that the depo-provera injectable (DMPA) alone is the most appropriate method for WLWH (see Appendix 2), in addition to condoms, despite the fact that international guidance (issued in advance of these guidelines) stated that the full range of contraceptive methods should be made available to WLWH (WHO, 2004b; WHO, 2006b).

An important determinant of the effectiveness of provider integration is skills training, and various studies have demonstrated that providers working in HIV (and even SRH) lack skills to deliver contraceptives and other SRH services to PLWH, such as dual protection counselling (Banda et al., 2004; Bharat & Mahendra, 2007; Harries et al., 2007a), even following interventions that aimed to build skills in these areas (Reynolds, 2006; Adamchak et al., 2007; ACQUIRE, 2008). Inadequate preparation of providers to deliver a broader package of care may increase resistance to integration (Adamchak et al., 2007), and staff may fear integration due to perceived workload increases or concerns about occupational exposure (ACQUIRE, 2008). A study within VCT services found that providers who were more knowledgeable about contraceptive side-effects were more likely to deliver contraceptive counselling (Bradley et al., 2009), highlighting the importance of skills development.

PHC providers may also fear the impact of HIV integration or decentralisation. In Swaziland, a report suggested nurses are concerned about the multidisciplinary nature of HCTx, the physical and emotional manifestations of the disease, the need for infection control measures, and the associated stigma that comes with it (Mkhabela et al., 2008). Provider motivation to deliver HCTx may be reduced when no additional staff are recruited for additional work and no incentives are provided (Agadjanian & Hayford, 2009). Providers also fear the impact of ART integration on quality of care (Pineaar et al., 2006). In Zambia, integration of HCTx with PHC led to tensions and breakdown in communication between the HCTx and PHC staff due to higher

salaries and superior attitudes among HCTx providers (Topp et al., 2010). However, reports also suggest provider support for integration. In South Africa, an ART decentralisation study suggested nurses desire to offer more comprehensive care to clients, and also feel that PHC nurses should be trained in HIV care, in order to address OIs and other issues among PLWH (Stein et al., 2008). But prioritisation may still occur; a descriptive study within ART clinics in South Africa found that providers were more concerned about integration with TB services than integration with other chronic care services, including SRH (Pineaar et al., 2006).

2.4.2 Systems support for integration

Multiple studies have documented the important role of programme management and policy in service integration efforts. Inhibiting factors include a lack of clear guidelines on what is to be integrated and how, as well as failures in disseminating existing guidance documents (Population Council, 1999; Mayhew et al., 2000; Oliff et al., 2003; Maharaj & Cleland, 2005); the failure to revise client monitoring forms following integration (Population Council, 1999); poor record-keeping (ACQUIRE, 2008), or insistence on keeping SRH and HIV data and records separate (to avoid confusion) (Agadjanian & Hayford, 2009); stock-outs of contraceptive supplies (Ndhlovu et al., 2003; ACQUIRE, 2008); inadequate supervision (Ndhlovu et al., 2003; Oliff et al., 2003); long waiting times (Ndhlovu et al., 2003); lack of privacy for counselling (Ndhlovu et al., 2003; Maharaj & Cleland, 2005); reliance on in-service training for skills development (Mayhew et al., 2000); poor availability of client education materials (Population Council, 1999; Mayhew et al., 2000); and shortage of equipment (Population Council, 1999; Maharaj & Cleland, 2005). Even the *perception* of shortages of contraceptive supplies can inhibit provider counselling on family planning (even if not a problem at that point in time) (Bradley et al., 2009). Integrating HCTx into SRH involves additional challenges, including the creation of laboratory services, ensuring access to CD4 counting machines and haematology analysers, and thus sufficient preparations, time, and resources may be required to adapt facilities (IPPF, 2005).

Promoting cross-service utilisation has also been shown to be restricted by heavy client load (Foreit, 2006; Bradley et al., 2009). The capacity of HIV clinics to address broader health needs is particularly influenced by burgeoning client populations. A South African study on models of HIV care noted that as services became busier with increasing numbers of clients on ART, services tended to cut back on non-core ART services, and stand-alone HIV services were the norm (Schneider et al., 2008).

Integration, in the broader sense of promoting 'linkages' between different services, may also be inhibited by ineffective referral systems. PHC services are often unable to respond to the wide range of psycho-social and clinical SRH and HIV needs of clients, and access to specialized services is critical (WHO, 2006a). Such systems require staff to know where and how to refer patients; functioning transport systems; communications between different units and levels of health care; and the development of integrated information systems across the health system, for example through the use of electronic records and documentation of referral agencies (Mitchell et al., 2004). In Swaziland, there is no national referral system, poor communication between different levels of the health system, and no computerised patient records; all referrals have to be traced through paper forms, and every health facility and organisation has its own separate referral form, resulting in an uncoordinated referral system (MOHSW, 2008). A study in Nigeria investigating referrals to SRH and HIV documented higher referral ratios within PHC settings than hospital ones, and concluded that integration within PHC is less complex and more efficient than at hospital level (Chabikuli et al., 2009).

National coordination also has a bearing on integration outcomes. In Swaziland, SRH and HIV are controlled by different government departments, have parallel funding streams, separate policies, drug lists, procurement systems, training manuals and technical guidelines, and the SRH unit even has no specific national policy (MoH & IPPF, 2010).[9] The MoH's Strategic Plan highlights collaboration problems:

> *The weak collaboration between HIV/AIDS programmes (ART, HTC, PMTCT) and other programmes such as TB, SRH, MCH makes it difficult to provide holistic care to patients […] (MOHSW, 2007a p.10)*

In general, clinic managers often have to deal with the consequences of poor national coordination, and may be squeezed between conflicting vertical and horizontal strategies (Criel et al., 1997). Local managers often receive few additional resources to fund changes in service structure and little guidance on change management. In Swaziland, while The National HCTx Operational Plan, lists integration of services as a guiding principal, no specific planned activities related to SRH-HIV integration are included (MOHSW, 2007a). Furthermore, a later framework produced by the National Emergency Response Council on HIV/AIDS (NERCHA), while including reduction in unintended pregnancies among WLWH as a key objective, failed to report any shortcomings in family planning delivery in a gap analysis on PMTCT (NERCHA, 2009a).

[9] The national policy has been under development for the past four years or so.

2.5 Outcomes of integration

The benefits of integration, as articulated by international public health agencies, include: improved quality of care and client satisfaction; reductions in HIV-related stigma; increased uptake of health services; and improved behavioural and health outcomes (WHO et al., 2005; Fleischman, 2006; AIDS Alliance, 2011). Each of these areas will be considered here in turn. Integration is also considered to have cost-efficiency benefits, but as noted earlier, this dimension will not be addressed here. A summary of studies included in this section is presented in Appendix 3.

2.5.1 Quality of care

While public health agencies have assumed that service integration enhances quality of care, primarily through improved user evaluations (see section 2.5.2 on satisfaction), it also has the potential to diminish quality as breadth is achieved at the expense of depth (Kane & Wellings, 1999). A detrimental effect may be found if the service structures being integrated are fundamentally weak, or are not strengthened prior to integration (Yoder & Amare, 2008). Quality of care is constituted by various dimensions of health care (Bruce, 1990; Campbell et al., 2000), but here the focus will be on technical, organisational and interpersonal aspects (to differentiate from other integration benefits, discussed later).

Technical quality is usually understood to mean an adherence to clinical protocols, and could be considered to be a more objective measure of provider performance. There is limited evidence on the impact of SRH-HIV integration on technical quality of care. Interventions involving the addition of HIV testing into SRH that included counselling skills development demonstrated either positive impacts on quality of family planning counselling (Liambila et al., 2009), or no difference on quality of care (Mullick et al., 2008), although the integration intervention did include a specific component to improve quality. A study investigating integration of HCTx with PHC in Zambia generally found maintained or improved adherence to clinical protocols following integration, although measurement of haemoglobin for PLWH declined at one site (Topp et al., 2010). The technical competence of providers is also related to the level of care at which services are provided; while no studies from sub-Saharan Africa were identified, a study from the US specifically comparing integrated and specialist models of HIV care and found that generalists with no expertise in HIV provided a lower technical quality of care than expert generalists or infectious disease specialists (Landon et al., 2003).

Organisational quality can include infrastructure and client flow processes, including waiting times. On the one hand, integration of HCTx into PHC has been shown to have beneficial impacts on systems and infrastructure, including rehabilitation of PHC infrastructure (including lab systems), strengthened supervision, filled workforce gaps, and improved client flow (Price et al., 2009; Pfeiffer et al., 2010). However, other studies have also documented increases in waiting times following service integration and associated client complaints, including integration of HCTx into PHC (Chabikuli et al., 2009; Topp et al., 2010) and VCT into family planning (Reynolds, 2006; Liambila et al., 2008; Mullick et al., 2008)[10], usually driven by increased consultation times. The negative impacts on provider motivation, discussed earlier, may also influence quality. Providers also employ a range of formal and informal regulatory mechanisms to control client flow and movement within HIV clinics, and the impact of seemingly arbitrary rules on patients has been found to be highly negative (Campbell et al., 2010).

Interpersonal care, defined as the interaction between providers and users of services (Campbell et al., 2000), is an important dimension of quality, and also has important influences on client satisfaction (see below). Interpersonal care is important since global reviews demonstrate a correlation between effective communication and health outcomes (Stewart, 1995). Few studies report impacts on quality of counselling, but the improved quality score from the Kenyan study mentioned earlier did include interpersonal aspects (Liambila et al., 2009). It has also been suggested that client-centred models of interpersonal care are actually a prerequisite to delivering integration, rather than an outcome (Church & Lewin, 2010).

2.5.2 Satisfaction

It is the user's perceptions of quality, usually interpreted as measures of client satisfaction, that may form an important outcome of integration success. Defined as an individual's subjective evaluation of service received against his or her expectations (Sitzia & Wood, 1997), client satisfaction is an important health care indicator because it has been associated with adherence to treatment, utilisation of services, continuity of care and clinical outcomes (Ware et al., 1983; Kane et al., 1997). It is understood to be constituted by, and usually measured over, a range of dimensions of health care including perceptions on interpersonal communication (between providers and clients); the technical quality of care (i.e. competence) delivered; accessibility and

[10] The published paper of this report (Liambila et al., 2009) does not mention increased waiting times, but they were documented in the original Population Council report.

convenience factors (including waiting times); finances (i.e. fees paid); the outcomes of care (i.e. improvements in health); continuity of care (including constancy in provider or location); the physical environment (including clarity of signs, equipment, cleanliness); and availability (e.g. sufficient drugs or providers) (Ware et al., 1983). While many of these dimensions also constitute measures of quality of care (Bruce, 1990), satisfaction cannot be considered an objective judgement of quality, due to its socially constructed and emotional nature (Sitzia & Wood, 1997).

Expectations are seen as the building blocks of satisfaction (Ware et al., 1983), and clients may have differing expectations for different aspects of care (Sitzia & Wood, 1997). Expectations vary by socio-demographic and cultural determinants, but also are based on prior knowledge and experience. Higher quality of care may raise expectations, which can then actually lead to lower levels of satisfaction (Bond & Thomas, 1992). Different levels of satisfaction may therefore simply measure different perspectives on health care, rather than different levels of satisfaction with the same experience (Sitzia & Wood, 1997). Furthermore, the extent to which satisfaction ratings say anything about the technical competence of care provided is controversial (Sitzia & Wood, 1997).

In developed country settings, the interpersonal care provided (i.e. friendliness or patient-centredness of the provider) has been found to be one of the most important aspects of satisfaction (Sitzia & Wood, 1997), and this also applies to studies of satisfaction within HIV programmes in Southern Africa (Campbell et al., 2010). Overall, studies demonstrate high levels of client satisfaction with HCTx (Wouters et al., 2008; Campbell et al., 2010). Qualitative studies within HCTx services highlight the importance of convenient opening hours, confidentiality, waiting times, food assistance, being treated with respect by staff, costs of service incurred, and in South Africa, clarification over disability grants (Pineaar et al., 2006; Orner et al., 2008). Studies also suggest that HIV counsellors compare favourably to providers of other health services; a survey on satisfaction in a Ugandan hospital found higher satisfaction ratings comparing out-patient departments (OPD) with HCTx services (Nabbuye-Sekandi et al., 2011).

SRH-HIV integration has been assumed to increase satisfaction by delivering a broader range of services within one clinic or through one primary provider. However, it may also have other implications that may be off-putting to clients; for example, integrating STI/HIV into family planning consultations may require that a sexual behaviour risk assessment or pelvic examination be conducted, which may be offensive to some clients, in particular married women (Askew & Berer, 2003). Intervention or descriptive studies on service integration find

few complaints from clients; one report found dissatisfaction from systemic constraints, such as long waiting times, inadequate privacy and insufficient time during consultations for questions (Maharaj & Cleland, 2005). In general, both SRH and HIV clients reported appreciating accessing a broader range of services after integration, including STI prevention and treatment services (Maggwa et al., 1999; Solo et al., 1999; Fullerton et al., 2003; Lafort et al., 2003) as well as HIV testing and/or HCTx services (Kaba & Alem, 2006; Orner et al., 2008).

Other studies also investigate client preferences for integration. In general, studies point to a diversity of client perspectives, and the complexity of HIV care makes integration into SRH services challenging. PLWH being attended to within integrated SRH services in Brazil and Ethiopia reported their frustration at the poor coordination of care and failure to address their holistic health needs and a preference for specialized HIV centres was reported (EngenderHealth & UNFPA, 2006). Clients in integrated PHC-HCTx clinics in Zambia, while demonstrating preferences for integrated care, also had concerns about increased waiting times (Topp et al., 2010).

It is important to highlight, however, that data on satisfaction often produce highly skewed scores (usually >90%) (Hekkink et al., 2003; Weston et al., 2009), and are subject to a strong courtesy bias (Sitzia & Wood, 1997). Aggregate data on utilisation of services may therefore be a better indication of client satisfaction, discussed below in Section 2.5.4.

2.5.3 Stigma

It has been suggested that service integration can reduce HIV-related stigma by delivering HIV services through more generalist facilities not identifiable with first-line HIV care (Criel et al., 1997; Osborne et al., 1997; Askew, 2007; Bradley et al., 2007; Matovu & Makumbi, 2007; Bradley et al., 2008; Tollman et al., 2008; WHO et al., 2008b). This potential benefit is also anticipated by the MoH and partners in Swaziland (Kamiru et al., 2010).

HIV-related stigma has been defined as "... a 'process of devaluation' of people either living with or associated with HIV and AIDS" , and is followed by discrimination, "the unfair and unjust treatment of an individual based on his or her real or perceived HIV status" (UNAIDS, 2003). Stigma is a socially constructed phenomenon, whereby negative social meanings attached to an attribute become linked to individuals (which in the case of HIV is usually promiscuous, immoral or irresponsible sexual behaviour). Stigma mechanisms operate through an 'othering' of the infected population, a reproduction of social distance (Parker & Aggleton, 2003), and discrimination ensues as stigmatised people become systematically disadvantaged (Mahajan et

al., 2008). It is usually conceptualised as either felt stigma (also known as internal or perceived), stemming from PLWH's own negative perceptions about themselves; or as enacted (also known as external or received), which usually encompasses discriminatory behaviour by others (Greeff et al., 2008).

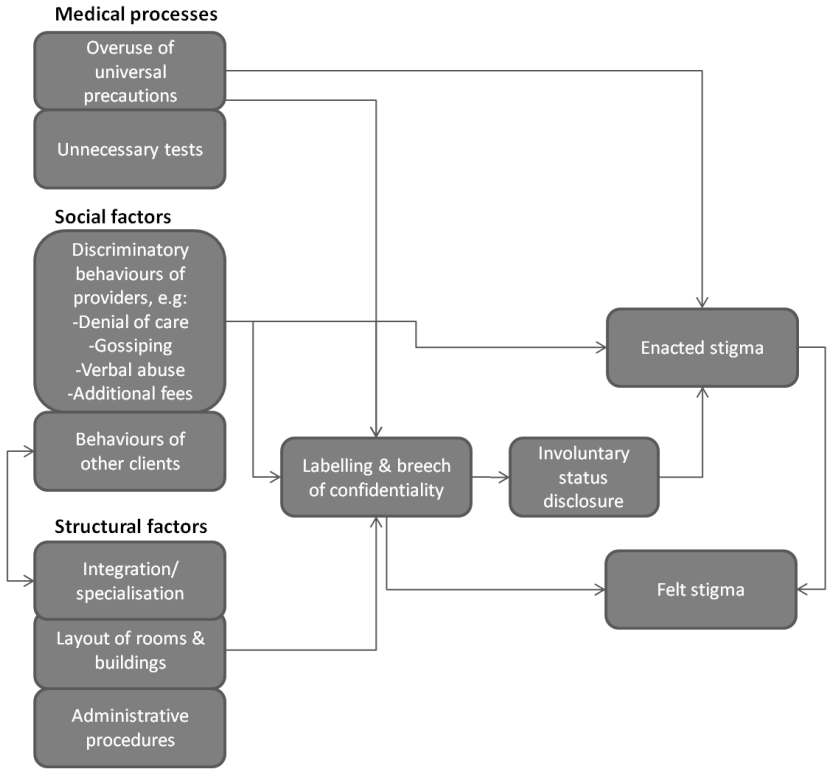
Both felt and enacted stigma remain pervasive in the Swazi context. Studies document stigmatizing attitudes and behaviours towards PLWH in the community, in the workplace, within families, and by sexual partners (PHR, 2007; Greeff et al., 2008; Shamos et al., 2009; Root, 2010). Stigma also has a gendered dimension there, with women more likely to fear blame, rejection, abuse, or loss of relationships and resources than men (PHR, 2007; Shamos et al., 2009).

Stigma is also an important barrier to health service access and utilisation for PLWH, as well as a predictor of drug adherence (Stringer et al., 2003; Weiser et al., 2003; Mahajan et al., 2008; Thorsen et al., 2008; Otieno et al., 2010). Conversely, while little empirical evidence exists, some studies suggest ART roll-out leads to reductions in stigma in certain contexts (Castro & Farmer, 2005) through what some have termed a 'virtuous social cycle' as the physical signs of disease disappear on treatment (Mahajan et al., 2008). However, other studies have shown that new expressions of stigma can emerge as PLWH can be no longer identified as health improves, again increasing fear in some communities; low testing rates in settings with widespread ART availability suggest ongoing pervasive stigma-related barriers to service access (Roura et al., 2009). Studies have demonstrated poor access for women referred for SRH from HIV settings due to stigma and lack of competence to meet their needs (WHO et al., 2008b).

Health services can also act as a locus of stigma (Nyblade et al., 2009). Literature suggests that stigma within health facilities operates through three principal mechanisms, the first through medical processes, secondly social, and thirdly structural. These are summarised in Figure 2.2. Most studies on stigma in health settings focus on the first two domains, highlighting the role of health workers as perpetrators of stigma. A recent review identified a wide range of discriminatory behaviours, including neglect, differential treatment, denial of care, testing without consent, disclosure of HIV status without consent, verbal abuse, gossip, burning bedding upon discharge, additional fees, and overuse of gloves (Nyblade et al., 2009). Discrimination by health providers, in their role as an expert authority, may be particularly harmful to PLWH, given their need for trusting long-term relationships with health workers, or if the provider is the only one to know of the client's illness (Carr, 2001; Fitzgerald, 2007). Within Swaziland, perceived maltreatment by health workers was found to be relatively low in a

representative survey (PHR, 2007). However, qualitative studies still suggest high levels of distrust of health workers, experiences of discrimination, as well as fears over unauthorised disclosure (POLICY Project, 2006; Greeff et al., 2008).

Figure 2.2: Pathways to stigma in health settings



Structural factors are those in which the organisation of services, including forms of integration or specialisation, can influence stigma, usually through involuntary disclosure of status. This includes labelling of clients as HIV positive on charts and registers, avoidance or isolation of HIV patients, and labelling of buildings, rooms and patients (Nyblade et al., 2009; Mill et al., 2010). Studies in sub-Saharan Africa found that most breaches of confidentiality occur in hospitals or clinics (Greeff et al., 2008). It has been argued that specialist HIV services may be particularly problematic in this regard, as clients are labelled as they walk through the door (Mill et al., 2010). Overall, however, little research has been conducted that measures stigma at the structural or institutional level (Mahajan et al., 2008), and a recent review on stigma in health care settings fails to discuss structural influences on stigma (Nyblade et al., 2009).

Evidence on the impact of integration on stigma is equivocal. Within SRH settings, studies suggest integrated services may offer a less stigmatising environment due to perceived anonymity (Best, 2004; IPPF, 2005; Maharaj & Cleland, 2005; IPPF, 2006; Kaba & Alem, 2006).

Within HCTx contexts, a qualitative report from South Africa demonstrated a stressful 'othering' process with service specialisation (Orner et al., 2008). However, in another study in Zambia, interviews with clients suggested mixed opinions; while over half of clients in a survey expressed negative views of vertical care because of stigma, client in in-depth interviews noted reduced opportunities to discuss HIV-related issues and share coping mechanisms with fellow clients (Topp et al., 2010). In Ghana, fears of breeches in confidentiality were reported when HCTx clients were mixed with SRH clients in the waiting room (Adamchak et al., 2007). Furthermore, descriptive studies also document that privacy is not always maintained in service settings, calling into question the supposed confidentiality of the integrated approach (Mayhew, 2000; Ndhlovu et al., 2003; Maharaj & Cleland, 2005). There is also evidence to suggest that some PLWH may prefer specialised HIV care over integrated care due to their poor treatment within SRH services (EngenderHealth & UNFPA, 2006; PATH, 2007). A well-designed study comparing vertical and integrated STI services found higher utilisation rates in specialist sites, reflecting desires for privacy and confidentiality as well as more convenient opening times for their clients (Nyamuryekung'e et al., 1997).

2.5.4 Access to & use of services

Gilson and Schneider have defined access to health care as "the opportunity or freedom to use a health service", which is differentiated from utilisation, defined as the moment when "an empowered individual makes an explicit, informed decision to exercise his/her freedom to use health care" (Gilson & Schneider, 2007) (p.28). By increasing the 'breadth' of care (number of services co-located in one site), integration could increase availability of and access to services; this in turn, could increase utilisation through cross-use of services and reduced need for referrals. Improved quality or perception of quality following integration may also contribute to a greater service uptake.

Most frameworks around service utilisation and access examine the motivating factors and barriers to getting to a health facility, rather than accessing additional components once there. Achieving breadth of care is dependent on either providers proactively taking opportunities to investigate other health needs, or on clients self-reporting these needs and/or demanding access.

Evidence on the impact of integration on increasing service utilisation is mixed. Within SRH contexts, studies indicate that uptake of STI/HIV components can be increased, including STI/HIV prevention (Chege, 2001), and VCT (IPPF, 2003; IPPF, 2005; Bradley et al., 2008; Odeh et

al., 2006). One study also found better sustainability of repeat clients after integration (Fullerton et al., 2003). Within VCT settings, integration of family planning into VCT has increased contraceptive counselling and method provision in various sub-Saharan settings, though usually because of increased condom use uptake (Mark et al., 2007; Bradley et al., 2009). Within HCTx settings, integration has increased rates of family planning counselling and contraceptive uptake in Uganda (albeit with fluctuations in uptake persisting over time) (ACQUIRE, 2008) and Kenya (including provision of non-condom contraceptives) (FHI, 2010b). Studies also suggest that referral models, where interventions promote client counselling and then promote internal or external referrals, can also increase uptake of HIV services (Chabikuli et al., 2009; Liambila et al., 2009) and SRH services (Chabikuli et al., 2009).

In the context of ART decentralisation, integration of HCTx into primary care more broadly has increased access to ART in Mozambique, in particular in rural areas (Pfeiffer et al., 2010), and increased use of SRH and preventive services in Rwanda (Price et al., 2009). In Swaziland, a descriptive account of decentralisation into five PHUs demonstrated a successful roll-out process resulting in access to ART for 684 pregnant women by 2010 (Chouraya et al., 2010); however difficulties were noted in gaining staff buy-in, and developing adequate client flow systems within primary care, and no primary research was undertaken in this integration process, only reports of client numbers. However, in South Africa, a recent study comparing different models of the integration of HCTx into ANC found no statistical difference in overall ART initiation rates between fully integrated, partially integrated and stand-alone (with referral) models of care, in the number of weeks of ART received, or in receipt of other forms of ARV-based PMTCT interventions; instead ART initiation was determined by gestational age at ANC presentation (Stinson et al., 2010). It should be noted, though, that the extent of service integration in the fully integrated model in this study was questionable, since ART initiation could only occur once a week when the doctor attended.

There have also been multiple reports on the persistence of missed opportunities in service delivery within purportedly integrated programmes where interventions have taken place. In SRH settings, this includes inadequate counselling on dual protection or condoms (Population Council, 1999; Mayhew et al., 2000; Adeokun et al., 2002; Lafort et al., 2003; Ndhlovu et al., 2003; Maharaj & Cleland, 2005); failure to conduct pelvic examinations (Population Council, 1999); and lack of behavioural risk assessments in high prevalence settings (Mayhew et al., 2000; Lafort et al., 2003; Maharaj & Cleland, 2005). In HIV clinics, this includes poor discussion of family planning despite training (Adamchak et al., 2007; FHI, 2010a); insignificant increases in

offers of condoms or method choice (Reynolds, 2006); weak condom and dual method counselling (Adamchak et al., 2007); no increases in provider knowledge after training (FHI, 2010b); and failure of PHC nurses to screen for HIV (Zwarenstein et al., 2011). Authors suggest these were due to a variety of systems challenges and provider factors (see Section 2.4).

2.5.5 Behavioural and health outcomes

Very little evidence on the impact of SRH-HIV integration on behavioural or health outcomes exists. A recent Cochrane Review of robust evaluation study designs on all types of primary care service integration in LMICs (including community interventions) identified nine studies ever published, and found no evidence that service integration improved health outcomes (Dudley & Garner, 2011). The causal pathways from a model of care to outcome are also tenuous, since outcomes are necessarily mediated by service access variables, and SRH outcomes are particularly influenced by multiple other socio-demographic and behavioural factors. Intermediary behavioural outcomes will be included here, which are more commonly measured, including indicators on condom use, unmet need for family planning and contraceptive use, as well as any impact on health status.

Three operations research reports (not peer-reviewed) suggest some behavioural benefits, though not consistently. A controlled pre-/post-test (RCT) in South Africa comparing a fully integrated family planning and VCT service, with an internal referral model and a control, found mixed results in various SRH behaviours, including significant increase in condom use in last month (full integration only, $p<0.05$) and use of condom with contraceptive method (all arms, including control, $p<0.05$), and access to HIV test in same facility (referral model only ($p<0.01$)); there were no significant changes in condom use at last sex in any arm (Mullick et al., 2008). The enhanced access to testing at the internal referral model was attributed by the authors to a preference to have an HIV test with a different provider. In a VCT setting in Kenya, a cross-sectional (post-test) study of integration of family planning into VCT clinics demonstrated lower unmet needs for family planning in intervention groups than control (no significance levels provided, and no adjustment), though unmet needs were actually lowest in a 'partial' integration model, rather than a full integration model; this went unexplained by the authors but poor performance overall was attributed to training challenges (FHI, 2010a). In an HCTx setting, a pre/post-test study evaluating the integration of family planning services (including provider training, supportive supervision and job aids) led to increases in modern method use (from 36% to 52%), in condom use (from 8 to 21%) and in dual method use (3% increase) among PLWH, but no significance levels were reported (FHI, 2010b).

Limited peer-reviewed studies are available on health-related outcomes. In Zambia, a cluster randomised controlled trial (RCT) found that integration of family planning counselling into VCT led to substantially greater contraceptive uptake at 3 months compared to control arms, but found no impact on pregnancy incidence at 12 months, attributed to contraceptive discontinuation and failure problems (Mark et al., 2007). A longitudinal cohort study, though, found integration of family planning counselling into VCT led to decreases in client attrition, and lower rates of pregnancy, in both positive and negative women (King et al., 1995), although this was conducted prior to ART roll-out, thus similar findings may not be repeated now. A prospective cohort study in Uganda demonstrated that ART provision coupled with prevention counselling emphasizing risk reduction, provision of free condoms and partner VCT led to a 70% reduction in risky sexual behaviour among PLWH 6 months after ART initiation (inconsistent or no condom use) compared to behaviours prior to ART initiation (p=0.0017) (Bunnell et al., 2006a), however one might argue that preventive counselling should form a core component of HCTx, thus adding doubt to any result of added benefit from integrated care. Also, it has been pointed out that PLWH often face challenges in sustaining preventive behaviour changes over time as lives normalise on treatment (Allen et al., 2011), thus a longer follow-up period may be useful in future studies.

Decentralising ART into primary care also has important health benefits; a descriptive study in Mozambique (using routine data) found better ART adherence in rural integrated PHC clinics than verticalised hospital settings, though the study design was not experimental (Pfeiffer et al., 2010). In South Africa, a cluster RCT showed that integration of HCTx into PHC significantly improved TB detection rates, provision of co-trimoxazole prophylaxis following a new diagnosis, and weight gain; but had no impact other health outcomes (viral load, mortality, and use of other health care) (Zwarenstein et al., 2011).

Lastly, it is important to note that studies discussed earlier demonstrating higher levels of contraceptive use and condom use among PLWH on ART compared to PLWH not on ART could be interpreted as a successful outcome of delivering these services within HCTx settings, but clearly these studies were not designed to evaluate the reorganisation of care.

2.6 Summary of findings and research gaps

This review has demonstrated that PLWH in sub-Saharan Africa have distinct and unmet needs for SRH services. These include needs for family planning services, counselling on fertility

intentions and pregnancy planning, promotion of condoms to prevent onwards transmission of the virus, as well as other important but neglected SRH services such as infertility, cervical screening, and violence services.

A large number of studies have investigated aspects of SRH-HIV service integration in the sub-Saharan region. The evidence suggests that integration can have important benefits, with particular positive impacts on access to and use of component services. These benefits can occur across a range of models of care, including those where HIV services are integrated into SRH settings, and vice-versa. Decentralising HCTx to PHC has also clearly had positive impacts on access to ART in more rural settings. The reduction in risky sexual behaviours, and the relatively elevated levels of contraceptive use among those on ART (compared with those who had not yet started ART), including high rates of condom use in some settings, suggests that HCTx service access may be having beneficial impacts on some facets of SRH. However, most of these studies had short periods of follow-up and did not specifically examine how services were responding to these needs over time.

Studies also highlight the complexity of delivering integrated care within under-resourced PHC settings in LMICs, with multiple challenges at the provider and facility level leading to ongoing shortcomings and missed opportunities following service integration. This seems particularly true where more in-depth process evaluations of integration have occurred (which to-date are primarily in SRH settings). Impacts on other presumed outcomes are more equivocal; there is limited and mixed evidence on the impact of integration on service quality, client satisfaction and stigma. The review also suggests that aspects of integrated care may actually compromise certain facets of HIV care important to clients, for example strong client-provider relationships could be jeopardized in partially-integrated models or referral models where clients have to see multiple different providers. Establishing impacts on behavioural or health outcomes has also proved challenging, since studies struggle to attribute client level outcomes to a change in an organisational structure of care.

There clearly still remain substantial research gaps on service integration, including evidence on the effectiveness of different service delivery approaches to meet the SRH needs of PLWH, and on the technical inputs required to achieve integration, including the relative importance of these inputs to achieve changes within services. These gaps have been highlighted by other reviewers (Kennedy et al., 2010; Dudley & Garner, 2011), as well as advocates of service integration (Myer et al., 2007b; Wilcher et al., 2008). There are few experimental studies on SRH-HIV service integration, and few reports have evaluated strategies to deliver SRH within

HCTx settings (only anecdotal case report described adding HCTx into SRH settings). Many studies that exist have weak designs (e.g. without adequate controls or randomisation), and many involve complex interventions where it is challenging to isolate the integration impact (i.e. aspects of service organisation, or re-organisation) from other concurrent interventions. For example, many intervention studies involved substantial inputs into training providers, provision of job aids, and improvements in infrastructure; therefore, attributing reported outcomes (such as quality improvements or behavioural changes) to the model of care alone is compromised. Kennedy et al. highlight that very few studies reporting on integration have been designed to measure integration effectiveness (Kennedy et al., 2010).

Furthermore, very few studies compare different *models* of health care delivery, and few specifically compare integrated with stand-alone care. This is critical, since it is important to determine whether combining services creates 'synergy', i.e. are the outcomes better when services are combined than when they are offered separately (Askew, 2007)? Only one recent study in South Africa has specifically compared integrated MCH-HIV with stand-alone (with referral) MCH services, but as noted earlier, was unable to demonstrate full integration in one clinic due to temporal service fragmentation at that site (Stinson et al., 2010). Studies that found differences in outcomes between provider-level and facility-level integration (Mullick et al., 2006; Bradley et al., 2007) did not examine how the process of care was affecting these outcomes (why do some studies suggest referral models may be more effective?).

There is a growing body of evidence on provider perspectives on integration, but little information to understand how providers go about increasing the 'breadth of care' within the context of busy HCTx clinics in a high-prevalence settings. The fact that heavy client loads may be inhibitive to integration suggests that further research is needed in this context. There is also very little in-depth analysis of user perspectives, in particular on preferences for and satisfaction with integrated models of care. Only one study in context of Zambian PHC qualitatively explored preferences for integrated versus stand-alone HIV services, but was not focused on SRH issues (Topp et al., 2010).

Lastly, very little evidence on the process and effectiveness of service integration in Swaziland exists. One published study has investigated the integration of PMTCT into maternity units (Kieffer et al., 2011), and another investigated the integration of PNC into PMTCT (Mazia et al., 2009). However, no published studies on service integration exist.

3. Conceptual framework

Introduction

The conceptual framework for this study is derived from findings from the literature review, as well as a review of relevant theories and conceptual models around quality of care, organisation in health care, and provider behaviour.

3.1 Theoretical review

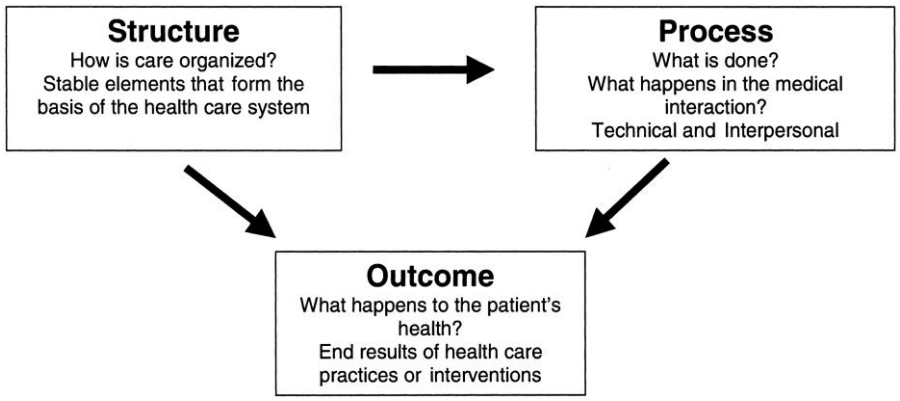
The studies on the impact or effectiveness of service integration reported in the preceding chapter have mostly been conducted without theoretical frameworks. And as noted, process evaluations seeking to establish the causal mechanisms through which integration works (or not) are limited, and most studies simply report 'challenges' with integration implementation. A review of health services organisation literature revealed no specific theory for predicting the outcomes of integration processes or interventions.

Three relevant theoretical domains were identified, however, focusing on different aspects of the determinants, processes and outcomes of integrated health care. These were theories around quality of care; around utilisation of and access to services; and around implementation of health interventions and the role of providers.

3.1.1 Quality of care theory

Donabedian's systems-based framework has been used frequently to both define and evaluate quality of care within the health sector (Campbell et al., 2000), and has been used as the basis for the development of other analytical models of quality of care within the field of SRH, including the Bruce-Jain framework on quality (Bruce, 1990). The original framework, shown in Figure 3.1, is a simple conceptual model interlinking health care structure, process and outcomes (Donabedian, 1966). Structure incorporates the attributes of settings in which care occurs, including material resources, human resources and organisational structure; process describes what is done in the giving of, and receipt of care; and outcomes cover the effect of the health care on the health status of patients, as well as more proximate outcomes such as satisfaction with care (Donabedian, 1988).

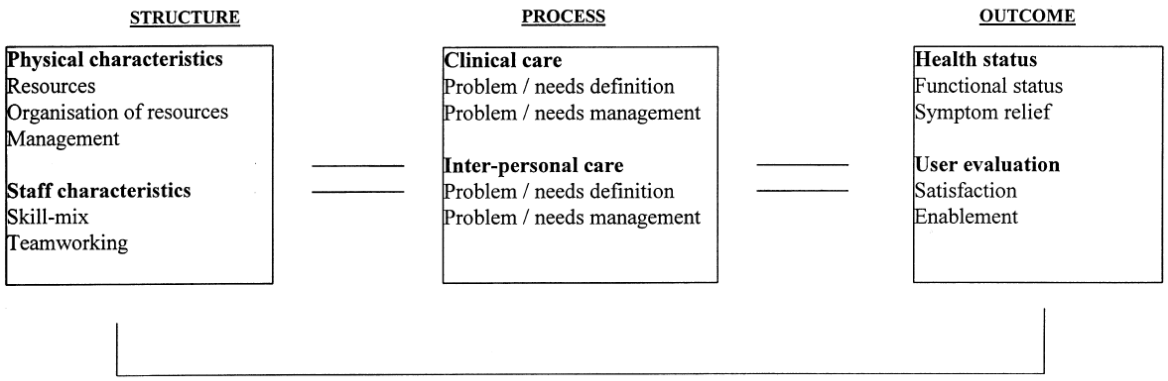
Figure 3.1: Donabedian's quality of care model



Source: Donabedian (1966)

In a more recent application, Campbell et al. added further detail to the model, highlighting the key constructs of each component influencing quality (Campbell et al., 2000). As shown in Figure 3.2, a useful demarcation is made in each domain. Within structure, they highlight not only the physical characteristics, but also the staff characteristics, including skills mix and team-working. Building on Donabedian's work, they differentiate process between clinical care, the more bio-medically oriented aspects of provider role, and the interpersonal care, i.e. the interaction of health workers and the users. Key interpersonal dimensions highlighted are communication skills, building trusting relationships, understanding and empathy, demonstrating humanism, sensitivity and responsiveness. The role of structure and process, in turn is measured by impact on both health status, as well as users' evaluations of care.

Figure 3.2: Campbell's application on Donabedian's quality model



Source: Campbell et al. (2000)

While Campbell et al. acknowledge that there are feedback loops, for example with user evaluations impacting on consulting behaviour, these are not included in the basic model. They

also note that the model does not aim to theorize about clients' consulting behaviour (access to and use of services), and those applying the model have recognised the need to further explore pathways to care (Campbell et al., 2000). Donabedian also concedes that theorizing a link from process to outcomes is problematic:

> *"Because a multitude of factors influence outcome, it is not possible to know for certain, even after extensive adjustments for differences in case mix are made, the extent to which an observed outcome is attributable to an antecedent process of care" (Donabedian, 1988 p.1746)*

When looking at client outcomes, which integration initiatives have clearly attempted to influence, it is therefore important to address other determinants of client health and behaviour. In the context of SRH outcomes among PLWH, this can include the social and cultural factors impacting on fertility intentions and contraceptive use (discussed in the previous chapter), such as social pressures on childbearing or community in the stigma towards PLWH.

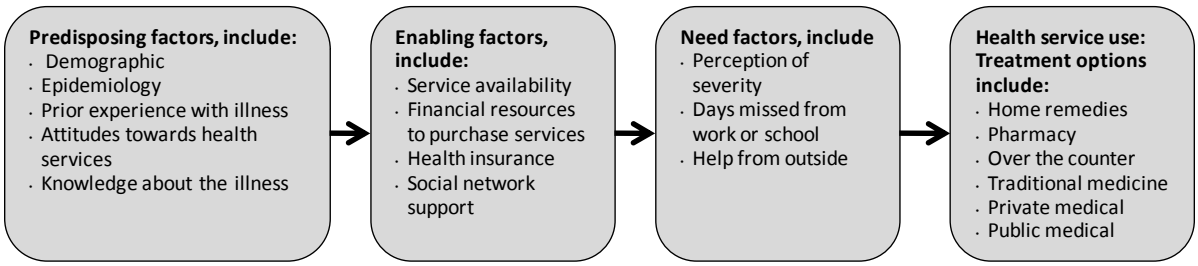
3.1.2 Health service utilisation & access theories

Proponents of service integration claim that it increases service uptake of and access to care. Many theories have been developed to explain patterns in health-seeking behaviour. One of the best known models, the Health Belief Model (Rosenstock et al., 1994), has also been applied to explain health service utilisation patterns. Developed by social psychologists, health actions are seen to be determined by beliefs in the effectiveness of a health behaviour (perceived benefits and barriers); by perceptions of threat (perceived severity of the disease or condition); and perceived susceptibility to it. Underlying these factors are individuals' demographic characteristics. The Theory of Reasoned Action (Ajzen & Fishbein, 1980), and it's later evolution, the Theory of Planned Behaviour (Ajzen, 1985) are other important individual behavioural theories which place greater emphasis on individuals' normative beliefs, including the perceptions on whether others will approve of one's behaviour. These are often applied in developed country settings where service use is more influenced by individual decision-making, and thus the motivational aspects of personal disease control are highlighted, as well as the influence of social networks and peer pressure.

While these theories are important for behaviour change interventions, they may be less applicable to exploring health care utilisation practices in the context of sub-Saharan Africa. Anderson & Newmans's Health Care Utilization Model (Anderson & Neuman, 1975), suggests that health service use is influenced by need factors, enabling factors, and predisposing factors. Hausmann-Muela, in a review on health-seeking behaviour theories, highlights the different components of these domains in the model, as shown in Figure 3.3 (Hausmann-Muela, 2003).

As can be seen, service availability and other structural elements of health care appear as important determinants influencing a person's choice of treatment option.

Figure 3.3: Health care utilisation model



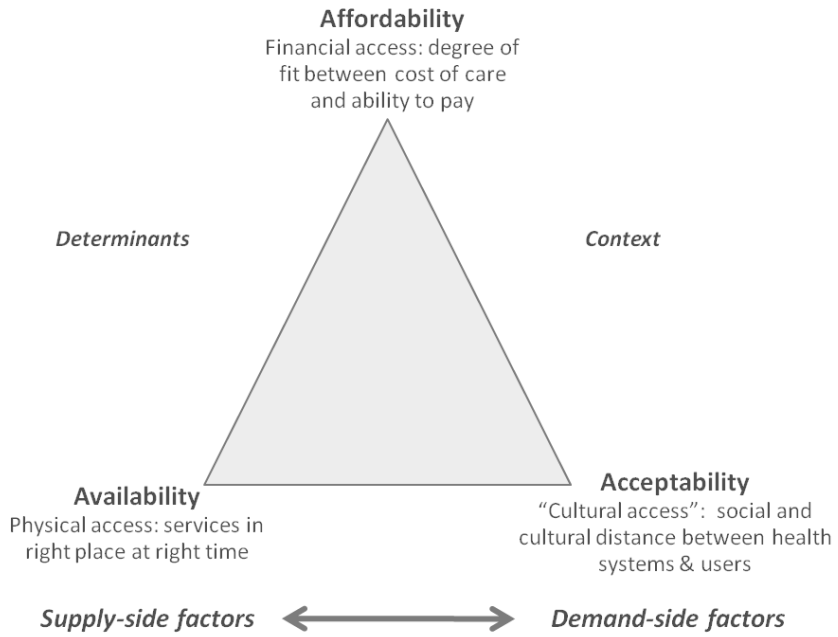
Source: adapted from Hausmann-Muela (2003), in turn adapted from Anderson & Neuman (1975)

Again, however, this theory is individualistic and focused on clients; it does not address the characteristics of the health service and health providers, beyond basic service availability. Gilson and Schieder more recently elaborated a related framework on health service access which sees service utilisation bound up with availability, affordability and acceptability of services (Gilson & Schneider, 2007). As shown in Figure 3.4, service access is understood to be influenced equally by both supply- and demand-side factors. Three core elements are particularly highlighted: the fit between lay and professional beliefs; patient-provider engagement and dialogue; and the ways in which organisational arrangements influence patient responses to services. These elements are in turn influenced by a wider range of contextual factors, including advice drawn from others in the community (shaped by health beliefs); the reputations of providers; trust in medical technology; and cost & perceived quality.

3.1.3 Implementation theory & provider role

While this study is not aiming explicitly to evaluate a policy implementation process, one of the study's aims is to explore the contextual factors influencing the process of service integration in the case study clinics. Theories around implementation help to examine how integrated care functions (or not). Theorists have highlighted how a key task of any evaluation is to determine "the extent to which […] pre-existing structures 'enable' or 'disable' the intended mechanism of change" (Pawson & Tilley, 1997 p.70). Given that health providers directly impact on service integration outcomes, factors influencing their performance and behaviour are particularly critical.

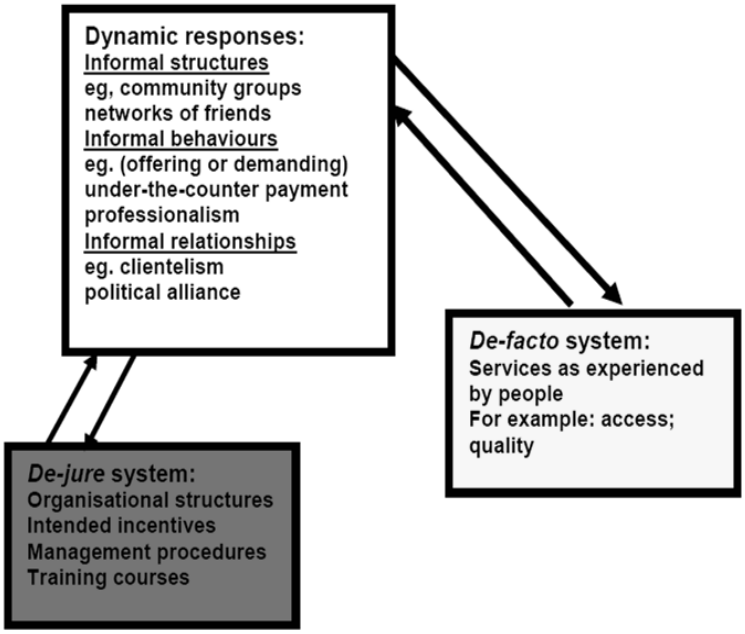
Figure 3.4: Service access triangle



Source: adapted from Gilson & Schneider (2007)

Lipsky's theory of 'street level bureaucrats' is commonly cited in the context of analysing provider behaviour (Lipsky, 1980). It highlights the role that front-line workers (such as health providers) play in shaping the delivery of policy and services. Providers often work in conditions that are not conducive to optimal job performance, and "routinely making difficult resource allocation decisions about who gets services or not" (Walker & Gilson, 2004 p.1252). In a similar vein, Blaaw et al. have highlighted how de-jure organisational structures are modified by providers through a 'dynamic response process' resulting in the de-facto system in which clients experience services (see Figure 3.5) (Blaauw et al., 2006). The social nature of the system and intervention is highlighted, underlining how "everything depends on how people interpret and implement policy", and thus there is no direct link between the de-jure system and client experiences (Ssengooba et al., 2007 p.65). Dynamic responses can have both positive effects, for example by allowing clients to bypass formal bureaucratic procedures, and negative effects, for example subverting intentions of formal agreements (Ssengooba et al., 2007).

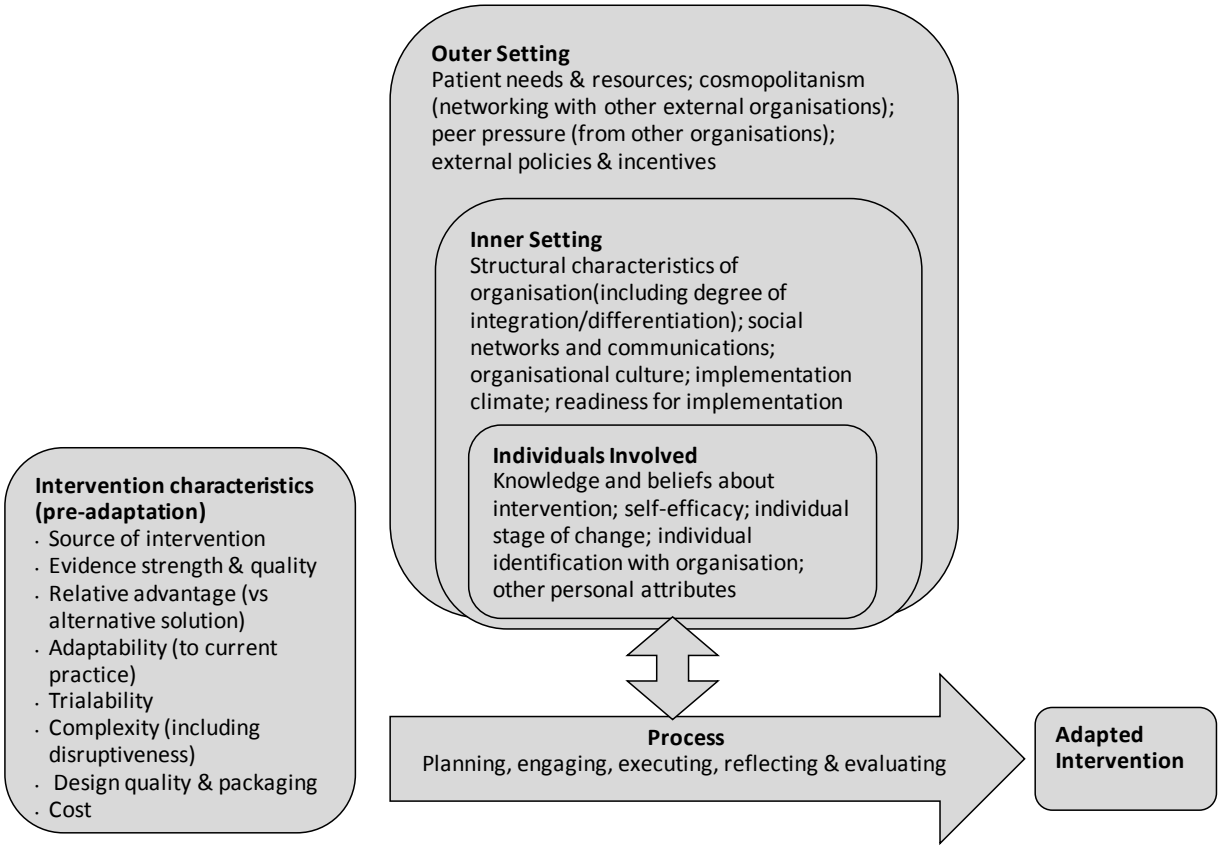
Figure 3.5: Dynamic Responses Model



Source: Blaauw et al., (2006) & Ssengooba et al. (2007)

These theories, however, do little to explain the normative and cultural processes that shape the actions of providers. Other theories predicting provider behaviour, such as The Theory of Planned Behaviour (discussed above), have also been found to be inadequate. For example, a recent review found that it only explained 31 percent of variance in health worker behaviour across multiple studies (Godin et al., 2008). Theories of policy or intervention implementation, on the other hand, do address the broad spectrum of determinants on actions that occur within health provision settings. Following a comprehensive review of implementation theory, Damschroder et al. recently proposed a meta-theory, the "Consolidated Framework for Implementation Research" (CFIR), summarised in Figure 3.6 (Damschroder et al., 2009). This theory addresses various social and structural (functional) constructs influencing implementation, resulting in what they term the 'adapted intervention'.

Figure 3.6: Consolidated framework for implementation research



Source: Author's adapted graphic from Damschroder et al. (2009)

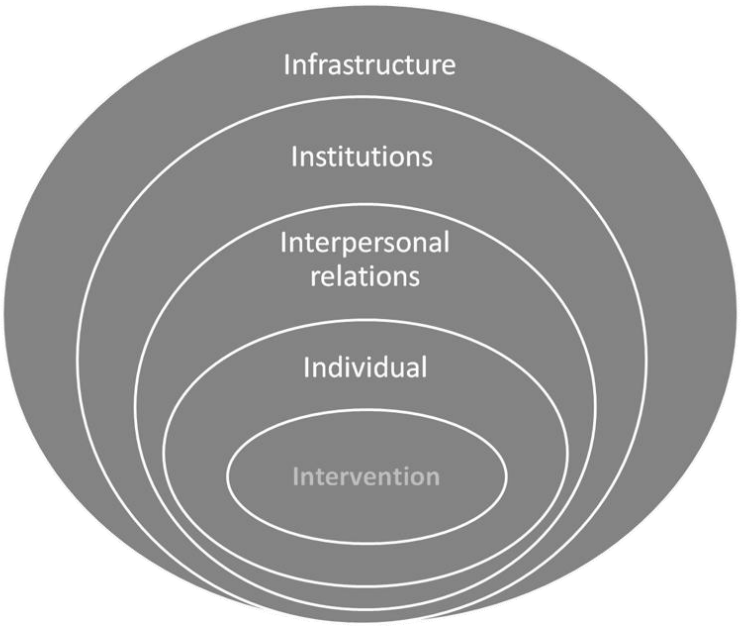
Since this theory focuses around implementation of a *new* intervention, they highlight the importance of the attributes of the intervention itself, including its provenance; the strength of evidence supporting it; or its' relative advantage versus current practice, or adaptability to current practice. However, the 'setting' of implementation determines how or whether this then gets incorporated into practice. The outer setting includes factors related to patient needs, as well as external factors influencing the health care organisation, including how networked the organisation is to others, and the extent of peer pressure from other organisations. The inner setting mediates influences of the outer setting, and covers the structural, political and cultural contexts within which implementation happens. Here, integration (or differentiation of care) is seen as one factor influencing policy implementation, as well as social networks between individuals, and the organisational culture. Lastly, the individual level focuses on the providers, including their own knowledge or beliefs about the intervention; their own self-efficacy; their stage of change (based on, among others, Rogers' Diffusion of Innovations

Theory); their identification with the organisation; and other personal traits (including motivation, values, competence, innovativeness). The implementation process covers the extent to which the innovation is planned; the engagement of individuals (i.e. advocacy); the execution according to the plan; and reflection and evaluation of the intervention.

Operating within a critical realist perspective (i.e. falling between empiricist and constructivist accounts of scientific explanation), Pawson has also highlighted the importance of context in understanding how social programmes work when implemented in practice (Pawson, 2006). He sees a generative model of causation that explores the causal explanations and patterns in the objects, agents or structures under investigation. Interventions are understood to trigger choice mechanisms that are then taken up selectively according to the characteristics and circumstances of the subjects. This could be seen as allied to contingency theory, which seeks to predict organisational performance by identifying the environmental 'contingencies' that make organisations function more or less well (Hatch & Cunliffe, 2006). Lawrence and Lorsch even examined how environmental contingencies influenced organisations patterns of integration or differentiation (Lawrence & Lorsch, 1967). However, these organisational theories did not seek to explain the role of human agency in organisational behaviour which the literature review has shown is critical with service integration. Pawson, on the other hand, focuses on human agency; rather than asking whether something works, the central research question then becomes "what works for whom and in which circumstances?" (Pawson, 2006 p.25). Figure 3.7 displays a model for understanding the layers of different individual, interpersonal and institutional influences on programme implementation (the "four I's"). Pawson has suggested that these contextual layers, or contingencies, "represent the greatest challenge to evidence-based policy" (p. 31). Since the same programme is rarely, if ever, effective in all circumstances, the challenge to realist researchers is to generate theories about these contextual influences and generative mechanisms.

The model is essentially a simpler form of Damschroder's meta-theory of implementation. Individual factors cover the capacities of the key actors to respond to the intervention in the way designed. Interpersonal relations support the intervention, and include communication processes between different actors, as well as the influence of others' views and opinions, and how these may influence behaviours and outcomes. The institutional context includes the culture, character and ethos of the organization implementing the intervention. And the infrastructural system is understood as the political support and resources required for intervention implementation.

Figure 3.7: Pawson's contextual layers of programme implementation



Source: Pawson (2006) adapted from slide presented by Gilson (2010)

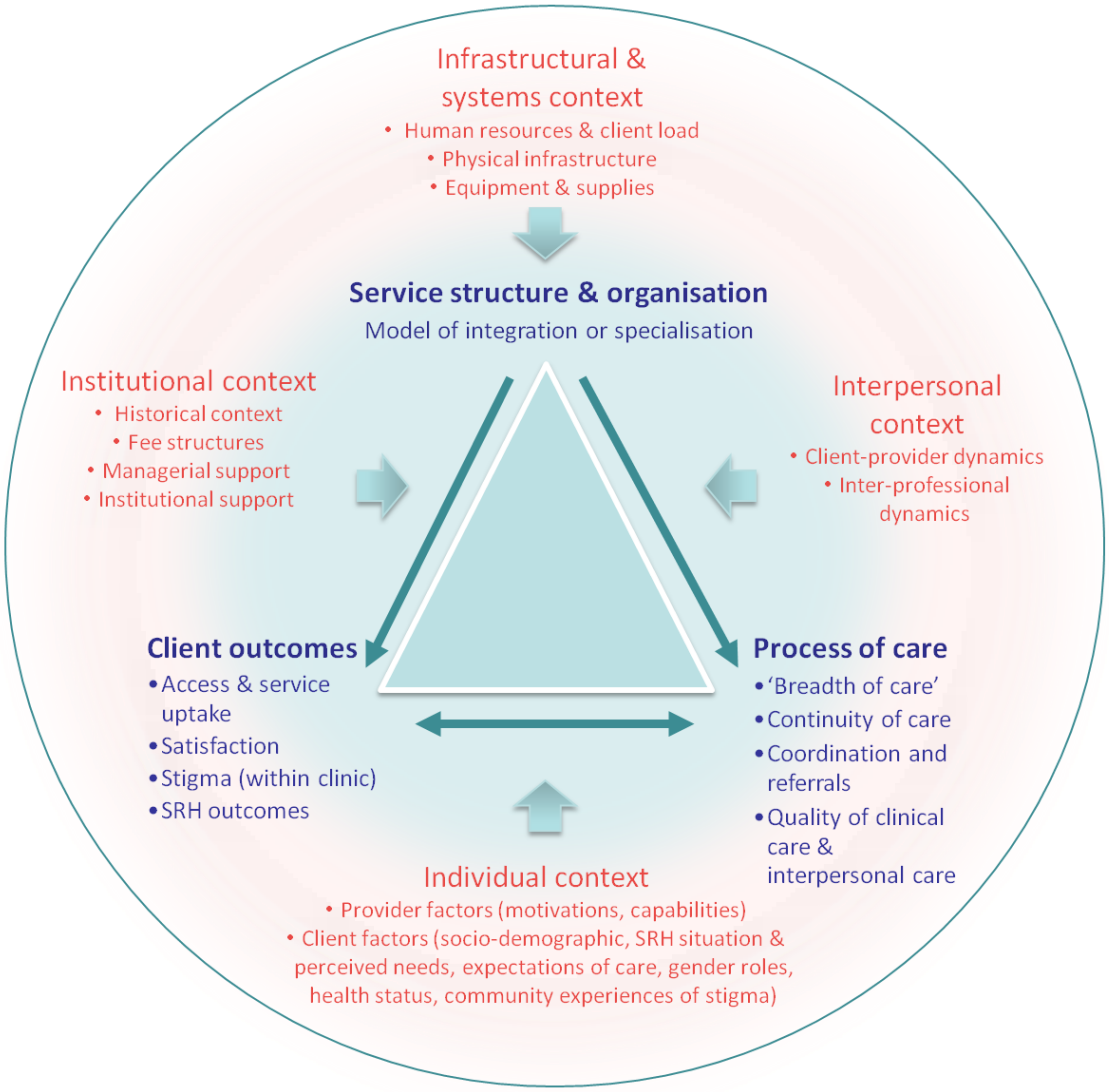
3.2 Study conceptual framework

Figure 3.8 displays the conceptual framework of the study, which incorporates different elements from the theoretical review and literature review. Loosely based on Donabedian's framework on quality of care, it places the model of care (integrated versus specialised) at the apex of the systems triangle, since it is the critical construct under investigation here. Integration, in turn, is expected to impact the process of care and client outcomes.

The model incorporates elements of implementation theory, including the four layers of contextual influence from Pawson's model, which have independent influences on service delivery systems. The individual level includes both provider role, as well as incorporating individual client factors as a key component, since the service utilisation theories highlight these individual determinants on health care access and utilisation. Client components go beyond socio-demographics, however. Literature suggests that antecedent SRH situation impacts upon perceived needs and use of SRH services; that use of SRH services is also impacted by health status in this population of PLWH; and that experiences of felt stigma within a clinic are also impacted by enacted stigma at the community level. At the provider level, the literature suggests that motivations and capabilities are the two key determinant domains influencing

likely success of integrated care. They also encompass many of the 'individual' factors outlined Damschroder's implementation model.

Figure 3.8: Study conceptual framework



While Donabedian incorporated infrastructural domains within his systems triangle, here infrastructure is seen as a contextual influence around the relationship between integration, processes and outcomes. Infrastructure is also broadened to include a systems element, since the literature has suggested that systems play a critical role in integration effectiveness at the service level. Service structure can still have an effect on outcomes independent of process, since access to care is expected to be an important organisational benefit of integration.

4. Methodology

Introduction

This chapter presents the study design and methodology used to answer the research questions outlined in Chapter 1. Firstly, the mixed methods case study design is presented and justified. The chapter then goes on to describe the data collection and analysis methods used, including background data, qualitative methods and quantitative methods. The last section addresses ethical issues.

4.1 Study design

4.1.1 A mixed methods comparative case study

In order to investigate the process and outcomes of service integration, a comparative case study design utilising both qualitative and quantitative data collection methods was chosen. While other components of the Integra study in Swaziland and Kenya have utilised more traditional positivistic research methodologies, i.e. cluster RCTs of integrated PNC-HIV and family planning-HIV services, aiming to quantify the effectiveness of service integration, this case study component aimed to delve in greater depth into the process of care to understand *how* integrated care influences client outcomes, and the factors that enhance or constrain integrated models of care. An experimental approach to integration research is not always helpful, since "experimentation tries to minimise all the differences (except one) between experiment and control groups and thus 'effectively strips away the context and yields results that are valid only in other contextless situations'" (Pawson & Tilley, 1997; p22, citing Guba and Lincoln, 1989).

Instead, the case study, "an empirical enquiry that investigates a contemporary phenomenon within its real-life context" (Yin, 2003; p.13), has been proposed as an important research design for evaluating complex health interventions in real-life settings (Gilson, 2010). A comparative case method (as distinct from multiple case studies), also allows cross-case analysis, which is particularly pertinent to the research questions of this study since it allows a comparison of different models of care. Case studies can also be used to test hypotheses or, perhaps more commonly to refute or falsify theory, through the identification of atypical or extreme cases (Flyvbjerg, 2004).

4.1.2 Selection of the study site and four case study clinics

The four case study clinic models were identified (purposively) within one town in Swaziland in order to represent a specific model of integrated or stand-alone service delivery accessible to the same geographic catchment population. Manzini was the only town in Swaziland to have four different models of ART care in operation, and is the only town with a stand-alone HIV clinic. These four sites were the only HCTx facilities operating in Manzini at the time of the study and all reported offering free ART services (thus theoretically accessible to all types of clients). As outlined in Chapter 1, the four clinics were:

Clinic A: a fully integrated SRH-HIV service with all services available from one provider in one room (provider-level integration)

Clinic B: a partially integrated PHC-HIV service, with the different SRH and HIV service components offered by different providers in separate rooms within one building (facility-level integration)

Clinic C: a stand-alone HCTx clinic operating on the campus of the district hospital.

Clinic D: a stand-alone HCTx clinic

4.1.3 Integration of qualitative and quantitative methods

The importance of conducting inter-disciplinary research for the study of health services and health systems using both qualitative and quantitative methods has been well documented (Fulop et al., 2001; Hawe et al., 2004; Adamson, 2006; Atun & Menabde, 2008). Denzin & Lincoln (2000) note that triangulation is "a strategy that adds rigor, breadth, complexity, richness and depth to any inquiry" (cited p.292 in (Silverman, 2006)). Triangulating multiple sources of evidence has also been emphasised as a common strategy within case study research (Yin, 2003). Five methodologies were used in the study:

i. Clinic characteristics documentation (descriptive background)
ii. In-depth interviews (IDIs) with providers (qualitative)
iii. IDIs with clients (qualitative)
iv. Informal participant observation (qualitative)
v. Exit survey with HCTx clients (quantitative)

Including both quantitative and qualitative data can help improve validity and ensure the comprehensiveness of the findings (Mays & Pope, 2006). The different research objectives and questions addressed by the different methodological components are outlined in Appendix 1.

While the exit survey sought to objectively (and positivisticly) answer questions on quantitative differences between the sites in the process and outcomes of care, the qualitative component aimed to explore reasons for these differences, focusing on understanding the perspectives of the providers and users of HIV and SRH services on different aspects of service delivery. Qualitative methods are also particularly important for examining some of the social constructs under study in this thesis, namely client satisfaction and stigma.

Combining these approaches, however, is not unproblematic (Murphy et al., 1998). The methodological tensions between the competing paradigms of positivism of quantitative research, versus the interpretivism of the qualitative component, must be highlighted. From a positivist perspective, the aim is to generate facts on the research question, gathering data that are valid, reliable and representative through a random sample (Silverman, 2006). Within a constructionist paradigm, however, the reality or 'truth' of the data is disputable, since what people say can only be treated as a 'discourse' or 'account', and cannot be taken as factual evidence of experience (Silverman, 2006).

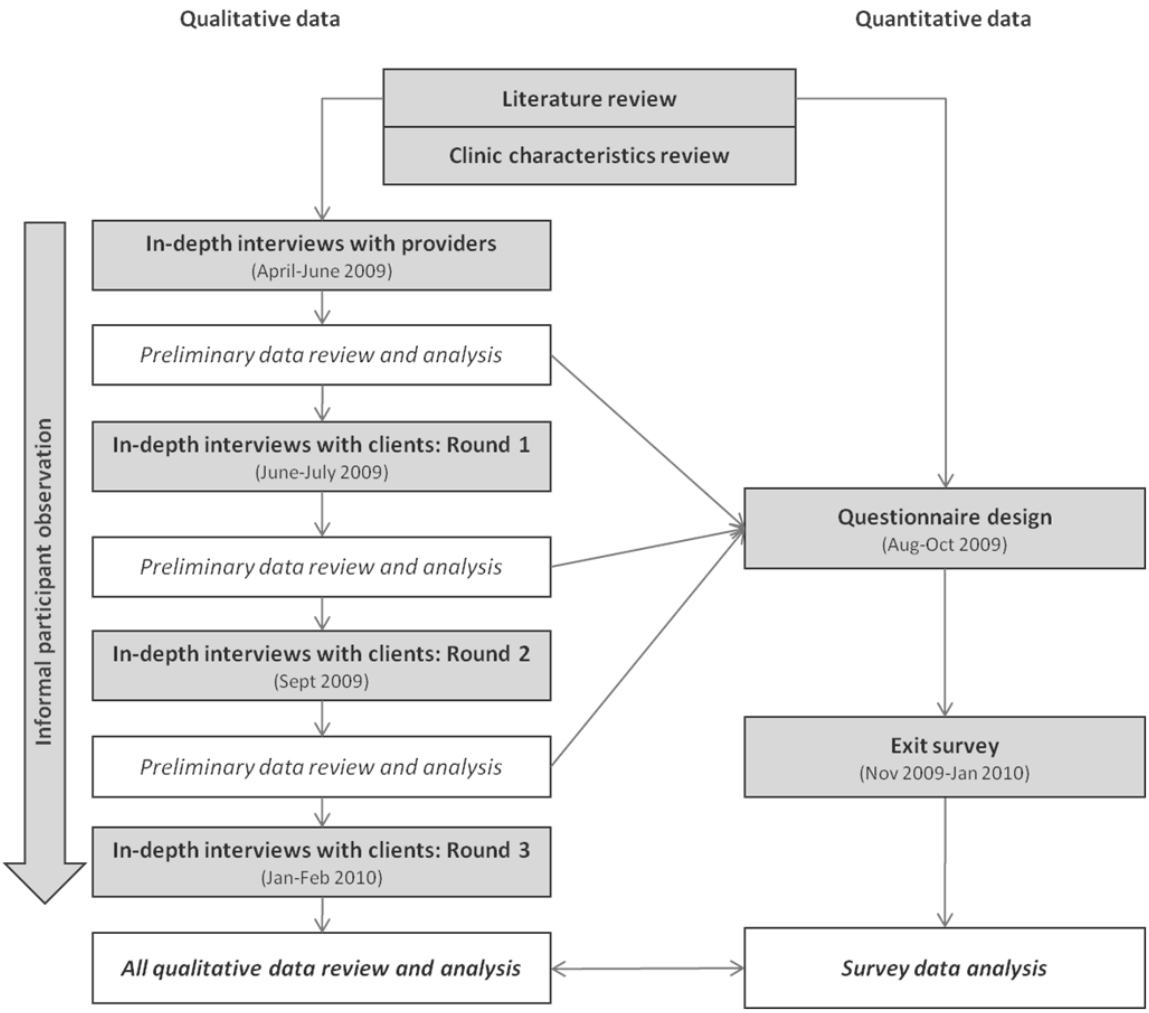
The thesis therefore adopted a 'realist' epistemology, which sits somewhere in-between the two paradigms of positivism and relativism (Pawson, 2006). Seen as a 'post-positivist' perspective, realism accepts the existence of an objective reality, but recognises that the researcher's values are inherent in all phases of the research process. Concerned with the identification of underlying causal mechanisms, realist methodology has thus been proposed to answer questions on how programmes bring about their effects, how interventions intervene, and what is the nature of causality for policies and programmes (Pawson, 2006). Undertaking 'realistic evaluation' has therefore been highlighted as particularly relevant for the investigation of complex interventions (Rycroft-Malone et al., 2010). In the context of integration research, we therefore seek to not only understand if integrated programmes outperform stand-alone sites, but if so, why is it that they are able to achieve these results.

Mixed methods researchers have proposed a variety of strategies for combining methodologies, including sequential, bracketed (one method implemented before and after the other), concurrent (one method implemented within the time frame of another), and simultaneous (Greene et al., 2008). In this study, weight has been shared equally between the qualitative and quantitative components, which were sequenced in order to ensure both exploration and interpretation. Iteration occurred in several ways, and method sequencing is shown in Figure 4.1. Qualitative findings were used to help design the questionnaire, as well as to interpret the findings. Quantitative results were also used to help interrogate the qualitative findings. The

aim was to achieve 'complementarity', meaning that the different methods measured overlapping but different facets of the integration question (Greene et al., 2008). The aim was not triangulation in its classic sense, where different methods and instruments strive to measure the same phenomenon in different ways, since this would erroneously imply that the weaknesses of one method could be compensated by another (Mays & Pope, 2006).

Data were analysed separately and integrated during the write-up of results. By adopting 'inter-method mixing' (i.e. sequential mixing of purely qualitative and quantitative components (Johnson & Turner, 2003), this also allows the data from the separate components to stand alone as robust pieces of research work subject to the usual scrutiny of their own methodological standards for reliability and validity (Morse, 2003; Adamson, 2006).

Figure 4.1: Integration of qualitative and quantitative study components



4.2 Background data collection

4.2.1 Exploratory meetings and collaboration with stakeholders

As discussed in Chapter 1, this study was conducted as part of the broader Integra Research project. As a first step in the research process, meetings were held with various key stakeholders in Swaziland, including clients, health care providers, clinic managers, relevant local and international NGOs, and with directors in the MoH and the National Emergency Response Council on HIV/AIDS (NERCHA). While these meetings were not formal interviews, detailed notes were taken providing the researcher with an initial understanding of SRH and HIV service delivery issues in Swaziland.

Throughout the 12 months of data collection in Swaziland, regular meetings were held with representatives from the HIV and SRH units of the MoH, with managers at the study clinics, and with other important NGOs. These meetings aimed to provide updates on progress with the Integra study, gain input into drafted data collection tools, gain buy-in and approvals for research activities in clinics, and promote interest in research results.

Collaboration with stakeholders was also an important means to better understand the research context. Policies and structure of health care in Swaziland were rapidly evolving during the course of the study, and it was essential to be aware of developments in policies and service provision at the clinics.

4.2.2 Clinic characteristics documentation

An important initial research activity was a comprehensive documentation of the characteristics of the four study clinics. The research tool used for this activity was a simple table used to chart information on the clinics together with staff and/or managers at the four sites. Data collected included information on:

- Staffing: total staff numbers, staff training policies and activities
- Clients: client load
- Structure: the structure of the rooms and buildings, client flow processes, daily organisation
- Service provision: opening hours, fees, types of services provided, services offered for HIV and SRH care (including local clinic protocols), testing processes, external referrals
- Background information: sources of external support, history, quality assurance mechanisms

Meetings were held with staff and managers at the four sites and information was mostly gathered through verbal reports. Client load numbers were documented from clinic spreadsheets of client numbers (initially in the first two months of data collection, and again at the end of the data collection period).

4.3 Qualitative data

Qualitative data are derived from IDIs with both health care providers and clients. Using small and purposively selected samples and interactive methods of data collection, the qualitative component allowed an in-depth and interpretative account of the health care process and user experience. IDIs are particularly useful for assessing individuals' attitudes and values, and the approach is open to emerging themes and concepts, unconstrained by pre-defined theory and constructs (Silverman, 2006).

Interviews have several important benefits: they permit the researcher to directly intervene in and have control over the research process; they allow interviewees the opportunity to tell their account of the issues and expand on areas they feel are important; they allow the researcher to ask a number of participants the same broad questions on a particular theme; and allow the researcher to probe or ask for clarification as the interview progresses (Britten, 1995; Carter & Henderson, 2006). Focus groups for clients were not considered due to the sensitive and confidential nature of the research topic (HIV and SRH), and neither for providers due to an anticipated respondent unease and discomfort in discussing their role and opinions in front of other colleagues.

Client interviews were repeated at three points in time. Follow-up interviews are useful in exploring certain themes in more depth as the research progresses (emergent themes were incorporated into later interview guides), and also support the development of trust with the interviewee (Green & Thorogood, 2004). They also capture richer data on health care processes over time, and allowed respondents more opportunity to reflect on the care they were receiving. Since the literature review and provider interviews suggested that client SRH needs change over the course of ART initiation and improvement of health status on treatment, these repeat interviews allowed an investigation into how these needs change, and how services responded to these needs.

4.3.1 Procedures for provider IDIs

Development of data collection tool

The provider interview topic guide is contained in Appendix 4. The guide was developed in order to elicit data on some of the key qualitative research questions of the thesis. Questions were also derived from findings of the literature review, as well as some initial discussions with providers at the clinics. The initial guide was also revised after the first (pilot) interviews.[11]

The topic guide consisted of two parts: a short series of structured questions to document the provider's background; followed by a series of open-ended questions on perceptions towards integration. The open-ended section of the guide covered six main themes:

i. Description of services offered (integrated or not), and their role as generalist or specialist providers
ii. Attitudes towards integration
iii. How HIV and SRH care are integrated in practice
iv. Attitudes towards PLWH
v. Opinions on benefits and challenges to delivering integrated care
vi. Relationships with clients and stigma issues

Questions in the guide were open-ended, to allow themes and theories to emerge from the data. The instrument was treated as a guide, rather than an ordered list of questions, and participants' chosen lines of discussion were allowed to develop until they segued into another topic or ran dry.

Interview procedures and sampling

Providers were interviewed at the clinics, usually in a spare consultation room. The rooms had closed doors and the interviews were completely private. Interviews were generally conducted in the afternoons at the end of or after clinic opening hours. The interviews were conducted by the author in English, since respondents spoke it fluently.

[11] The first two interviews were considered as pilot interviews. Since the interviews went well and the data were considered important and useable, these interviews were also included in the final dataset.

In total, 16 providers were interviewed (3-5 per clinic). Sampling was purposive, with the aim of interviewing providers who delivered HCTx services at the sites. In the two integrated sites (Clinics A and B), some providers also offered SRH services. In Clinics A, B and D, the sample was the total number of providers offering HCTx services at the time of interview, while in Clinic C a sub-sample of five out of seven HCTx providers was interviewed, with selection based on availability of providers during the week of interviews.

At the beginning of each interview, providers were asked to provide data on their age, position, specialism, work experience, and recent training. These data are summarised in Table 4.1. In total 11 nurses and five doctors were interviewed. Among the nurses, seven were female and four were male; among the doctors, one was female and the rest male. They had worked for a mean of 4.5 years in their current clinic, and the mean age was 36 years. 13 of the providers worked primarily or solely as HCTx providers (including both pre-ART and ART services); three were more focused on SRH services (but also did some HIV provision), of which two were at Clinic A and one at Clinic B. However, while most participants worked in HIV, the majority still self-reported themselves as generalist nurses or doctors when first asked about their profession.

The study goals and objectives were presented to the providers before the interview, and they were asked if they were interested in participating; no incentives were provided. Providers were read an informed consent form outlining the interview procedure, which all signed, and they were given an information sheet (see Appendix 9). No providers refused to be interviewed.

Interviews were recorded using a digital recorder, then transcribed, with a numeric code used to identify participants.

Table 4.1: Provider interviews participant profile summary

Characteristic	Category	No. Respondents (N=16)
Clinic	Clinic A	4
	Clinic B	4
	Clinic C	5
	Clinic D	3
Location	Integrated sites (A&B)	8
	Stand-alone sites (C&D)	8
Mean age (range)	36 years (range 26-50 years)	
Profession	Doctors	5
	Nurses	11
Work focus (observed)	ART providers	13
	SRH-HIV nurses	3
Role/specialisation (self-reported)	Generalists (only)	10
	Generalist/ART specialist	3
	ART /nurse anaesthetist	1
	ART specialist	1
	ART and medical/surgical nursing	1
Mean years working in clinic	4.5 yrs	
Recent training (in last 3 years)	ART	13
	PMTCT	12
	FP	6
	FP for PLWH	8
	STI	7
	Cervical cancer screening	8

4.3.2 Procedures for client IDIs

IDIs with clients were comprised of a 'qualitative cohort' of clients at the four clinics, involving a series of 3 interviews conducted over a six month period. Clients were recruited on the day of ART initiation for their first interview (Round 1), and followed-up after two and six months (Rounds 2 and 3). An initial two-month follow-up was selected since evidence suggested that health status improves markedly over the first few months of treatment, and it also allowed adequate time for the exit survey to be completed between Rounds 2 and 3. Round 3 interviews allowed further assessment of client status, changes over time, and experiences at the clinics. Both men and women aged 18 to 45 were interviewed, in order to capture a range of experiences and varying client SRH needs.

Recruitment and training of fieldworkers

A small team of local interviewers (one male, three female) was recruited and trained by the author to conduct client interviews in SiSwati, the first language of most Swazis. Interviewers

were identified through local networking and contacts with NGOs doing research in Swaziland. Four were recruited since drop-out was anticipated in the successive rounds of data collection.

Interviewers were trained over four days: the first two days covered the basics of qualitative research and interviewing and communication skills, the last two days involved role-play practice in class, and practice with lay counsellors at two clinics (who also gave informed consent, but were informed that the data would be shared with the whole research team). All training interview recordings were subsequently deleted. Practice interviews also offered an opportunity to pilot test and refine the topic guide. The author was present in all practice interviews, and one additional trainee took notes to observe their colleague. The first interview with real clients was also considered as a pilot interview, although subsequently it was decided to include these clients and these data in the dataset since the interviewers performed well.

Interviewers were allocated to respondents based on availability, and all interviewed clients across three or four sites. After discussions with the research team, it was decided to allow male interviewers to interview female respondents, and vice-versa; the team felt that Swazi women may in fact feel more comfortable conversing with men, and men with women. This was borne out by the depth of data achieved in mixed sex interviews.

Since the sample was a cohort group, the aim was for the same clients to be interviewed by the same interviewers in Round 2 and 3, to help build trust between interviewer and respondent in successive interview rounds. When two interviewers dropped out after Round 1, the remaining two took over the other clients, who they interviewed in Round 3 as well. Interviewers were retrained before Round 2 and 3 with a revised version of the topic guide.

Development of data collection tools

The first round of client interviews was conducted after provider interviews had been transcribed and reviewed. The Round 1 topic guide (see Appendix 5) was developed based on the literature review, the research questions, the clinic characteristics review, and on themes emerging from provider interviews. The draft guide was shared with and reviewed by Integra colleagues. Refinements were also made after pilot practice interviews. The topic guide was translated into SiSwati by one interviewer, and then reviewed as a group by others.

Round 1 interviews were transcribed and translated immediately following interviews, and transcripts were reviewed in-depth. A summary of each interview was drawn up after each round of data collection, describing the case in detail. This table also included a list of questions

to follow-up in the subsequent interview rounds, pertinent to that case. Revised topic guides were developed with each subsequent round with themes based on preceding findings and the literature (see Appendix 5). Space was left for case-specific follow-up questions.

The key themes explored in the three rounds of data collection are outlined in Table 4.2. In Round 1, the first part of the interview consisted of a structured set of questions aiming to investigate the client's background, and history as a client at the clinic, to allow the cases to be adequately described and interpreted in the analysis. In Round 2, a service use mapping table was used to outline the client's use of different clinics in the first 2-3 months of ART service use, to clarify some of the findings from Round 1.

As with the provider interviews, the interviewers were instructed to treat the guide as such, and follow up lines of discussion and explore areas of interest according to the flow of conversation. Some of the interviewers were more skilled in open-ended interviewing than others, and as a result some of the client data are more structured than the author would have preferred. The guides were structured so that less personal topics were covered initially to allow rapport-building, and more sensitive questioning on SRH addressed once the interviewees became more relaxed. Each sub-section started with a standardised open-ended question to promote open discussion, followed by probes for the interviewers.

Table 4.2: Client IDI topic guide themes

Round 1	Round 2	Round 3
▪ Overview of today's visit and services received ▪ Recent use of HIV services over past few months/year ▪ Recent use of HIV and MCH services for pregnant women (only) ▪ Family size, contraceptive use, and use of family planning services ▪ Sexual health ▪ Feelings on integrated services ▪ Suggestions on improving the services	▪ Health status since last interview ▪ Experiences at clinics since the last interview ▪ Relationships, family planning and sexual behaviour changes ▪ Clinic use mapping exercise over preceding 2-3 months	▪ Health status since last interview ▪ Experiences at clinics since the last interview ▪ Relationships, family planning and sexual behaviour changes ▪ Recommendations for improving the clinic

Client IDI procedures and sampling

Purposive sampling was used to identify a small number of client respondents at each clinic. The aim was to recruit at least five clients per clinic, with at least two men and one pregnant woman per site. The initial sample size was increased to six clients at Clinic B and D because some clients were shy, interview technique was poor, and/or interview data from the first five reports were inadequate. Interviewers were debriefed by the research leader after each interview to assess the interview process, the quality of the data, and the description of the case (client situation). The aim was to interview a cross-section of different types of clients from different socio-economic backgrounds; this was reviewed through the structured data in part A of the Round 1 interview guide. An initial review of translated transcripts also allowed the author to assess whether data saturation had been achieved. The costs of interview transcription and translation across three rounds of data collection also were prohibitive in reaching a larger sample size.

Recruitment strategies varied across the clinic due to differing client flow processes. At Clinics B and C, the research team attended a group ART adherence session, where the study was introduced to a large group of clients and interested parties were asked to approach the team after the session. Clients were informed of the aims of the study and the need for three repeated interviews over a six month period. Clients were selected on the basis of a 'first-out-of-clinic' approach, and the availability of the interviewers. Since all 5-6 interviews could not be conducted in one day, the team returned on subsequent occasions to purposively ask other clients to be interviewed; these were identified as ART initiators by the providers in the clinic. At Clinics A and D, respondents were identified by the ART initiation counsellors who asked clients whether they would be interested to participate in the study. The interviewers then explained the requirements to interested parties. In general, most clients seemed willing to be interviewed and it was not challenging recruiting participants.

In all cases, clients were interviewed in private, either in a free consultation room, a clinic administration room, or on a bench in a quiet and private area outside the clinic (a last resort where clinics were very busy). Clients were all read the informed consent form, including consent to record interviews on a digital recorder. Clients were given a snack during the interview, and were also given a £2.50 fee to cover transport costs. Each interview lasted for between 30 minutes and 1 hour 15 minutes, depending on the discussion and interviewer. The

research leader was present in a sub-sample of initial interviews to monitor interviewer skills and gain a sense of the interviews and respondents.[12]

Round 2 and 3 interviews were conducted approximately two and six months after the initial round, respectively. In both instances, interviews were conducted on the day of or days following a routine visit at the clinic. Clients were contacted beforehand by phone, and an interview time scheduled in a pre-defined location in Manzini (one of two local NGOs). In a few cases, the researchers travelled to the homestead of the client at their request. Informed consent procedures were repeated at each follow-up interview, and transport reimbursements provided. All interviews were recorded.

In total 22 clients were interviewed at Round 1, comprised of 15 female and 7 male clients, as shown in Table 4.3.[13] Of these, six clients dropped out after the first round, due to either loss of contact, unavailability or death; leaving a follow-up sample of 16 respondents (none dropped out after Round 2). The mean age of respondents was 31, ranging from 22 to 45 years. Clients were in a mixture of partnership types: five were single, eight had a partner living elsewhere, two lived with a partner, and seven were married. Of the 15 women interviewed at Round 1, five were pregnant at the time of the first interview. The socio-economic situation of clients also varied, as shown.

Translation and transcription

All digital recordings were kept in password protected files on the computer. Interviews were transcribed in SiSwati by a transcriber.[14] Once transcripts were finalised, they were translated into English by the interviewer. In three cases they were translated by another member of the research team, but the original interviewer always reviewed the transcript. The author also reviewed each translated transcript and highlighted instances where the English seemed dubious or incorrect; the interviewer was asked to go back and check the recording and translation.

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[12] After consulting with the research team, it was decided that the author should not be present on all interviews since her presence as a foreigner may inhibit discussion.

[13] It was not possible to identify a second male at Clinic A due to low numbers of clients initiating at that site.

[14] In Round 1, all transcripts were reviewed by the interviewer, who provided comments as tracked changes. Since all transcripts from Round 1 were nearly perfect, we decided separate reviews were not required in subsequent rounds; interviewers only noted issues during translation.

Table 4.3: Client IDI respondent characteristics

Characteristic	Category	No. Respondents (N=22)
Clinic (Round 2/3 sample in brackets)	Clinic A Clinic B Clinic C Clinic D	5 (4) 6 (5) 5 (3) 6 (4)
Sex	Male Female	7 15
Mean age (range)		31 (22-45)
Age (group)	20-24 25-29 30-34 35-39 ≥ 40	2 6 9 3 2
Relationship status	Single Has partner living elsewhere Living with partner Married	5 8 2 7
Pregnancy status (f)	Pregnant Not pregnant	**5** 10
Education	Primary Secondary College or above Adult education	7 12 2 1
Employment status	Employed (FT) Employed (PT/informal) Unemployed Sick/unable to work	9 2 7 4
Monthly household income (SLZ)	<500 500-1000 1000-3000 3000-5000 >5000	3 6 9 3 1

4.3.3 Informal participant observation

In addition to IDIs, observations of clinic processes and interactions were made by the research team throughout the course of the study. While this was not a formal participant observation methodology, which involves a more systematic approach to note-taking for extended and dedicated periods of time, it was considered essential as a way to help validate descriptions of clinic functioning from providers and clients. Observation areas covered included clinic structure, cleaniliness, client load, client flow, availability of condoms supplies at the reception area, and public interactions between staff and clients. Observation notes were also taken during an ART initiation adherence counselling session at each clinic by IDI research assistants, who sat in group counselling as passive observers. All field notes were captured in notebooks

and written up in Microsoft Word. In addition, observations from the exit survey interviewer team during their 3 weeks of data collection (see below) were also captured at the end of the survey through a debrief meeting, which was recorded and notes taken. Findings from observation data were incorportated into the analysis during the write-up of results, to help triangulate data from interviews.

4.3.4 Qualitative data analysis

Data from both provider and client interviews were analysed through an iterative process of coding, abstraction and thematic analysis. Thematic analysis is defined as "a method for identifying, analysing and reporting patterns (themes) within data, [that…] interprets aspects of the research topic" (Braun & Clarke, 2006,). Themes are not dependent on quantifiable measures, but rather on whether they record something important in relation to the research questions (Braun & Clarke, 2006). Analysis was conducted in the following stages:

i. Familiarisation (immersion in the raw data): This involved reading and re-reading transcripts. For client interviews, as noted above, all transcripts were also reviewed and summarized after each round of data collection. This allowed an initial search for patterns and issues of potential interest.

ii. Development of a coding framework: Transcripts were entered into NVivo 8.0 for data analysis.[15] An initial coding list and structure were developed based on two transcripts. Codes were derived both deductively (from the research questions) and inductively, from the data themselves. The coding framework was thus revised and restructured as new conceptual categories emerged from the data. Memos with new and important overarching themes were also recorded during the coding stage.

iii. Abstraction of coded data into thematic framework: Matrices were drawn up in Microsoft Word tables for each major theme in each dataset, with columns representing the important sub-themes, see

iv. Table 4.4 below. Themes differ from codes as they are often conceptually broader. Themes were derived from the coding framework and data, and thus also closely related to the research questions and conceptual framework. While some themes 'emerged' from the data, it is important to note that it is still the researcher who plays

[15] For client interviews, each respondent was entered as one source document, containing all three rounds of data; the different rounds were then coded as separate cases, to allow analysis over time in addition to cross-case analysis.

an active role in identifying patterns, selecting those of interest and reporting them to the reader (Braun & Clarke, 2006). Summary findings and relevant data extracts (quotes) were inserted into the matrices, and highlights made where data linked across themes. Each row in the matrix represented a case (respondent), to allow easy cross-case comparison. Client rows were grouped into clinics, with shaded rows allowing identification of a each new clinic, for easy cross-clinic comparison. An example extract from a matrix is included in Appendix 6. The matrices allowed a constant comparative approach, a technique common with grounded theory (Glaser & Strauss, 1999), whereby different data extracts are compared to look for differences and similarities.

v. Interpretation, methodological synthesis and write-up: Findings from the different method components were compared and contrasted during the write-up stage using the thematic matrices. This part of analysis paid attention to the diversity of perceptions, opinions, and beliefs expressed by the research participants and in the following results chapters attention is drawn to areas of commonality and variation. Interpretive hypothesises were cross-checked against the data, with attention paid to any deviant cases.

4.3.5 Methodological rigour in qualitative component

Those attempting to promote quality in qualitative research practice, highlight the importance of methodological rigour (Seale & Silverman, 1997) and the use of strategies to improve validity and dependability of research findings and to avoid charges of annecdotalism common with qualitative research (Mays & Pope, 2000; Silverman, 2006). Rigour was enhanced in the following ways.

The qualitative sample was considered flexible, so that further cases could be added when data were still inconsistent. For provider interviews, one additional respondent was interviewed in late 2010 to test and confirm theories arising from early data analysis, and one provider was re-interviewed. For client interviews, the initial sample of five respondents was increased at two clinics, since the existing interviews were not sufficiently rich in data.

Further, in addition to the systematic data analysis described above, verbatim accounts were used as much as possible, rather than researcher's reconstructions of the general sense of what the person said, to enhance reliability. If conflicting accounts were identified, both sides were presented.

Table 4.4: Thematic analysis framework for provider and client IDIs

	Provider data	Client data
Theme 1: Perceptions (misc)	*Perceptions on integration:* • Perceived benefits of integration to client • Benefits to the provider or service • Perceived risks of integration • Recommendations	*Perceptions on quality* • Satisfaction with svcs / good QoC • Experiences of poor quality care (perceived or interpreted) • Attitudes to integration (pos or neg)
Theme 2: Process of care	• How integrated is care? • Interventions to address FP • Interventions to address other SRH needs • Referrals • Quality of interpersonal care (including active vs responsive integration)	• FP/condom counselling/provision • Experiences of integrated care • Missed opportunities • Experiences of fragmented care or referrals
Theme 3: Stigma	• Pregnancy and HIV • Attitudes towards PWLH • Emotional needs working in HIV • Client experiences of stigma • Relationship between clinic model and stigma	• Attitudes towards childbearing in HIV • Comfort in clinic • Disclosure issues / other stigma
Theme 4: Contextual factors affecting integration	• Individual level factors (in provider) • Interpersonal factors (team work, etc.) • Institutional • Infrastructure • Social/health systems	• SES/gender individual client factors • Health/physical client factors • Interpersonal (relations with providers) • Infrastructural & institutional
Theme 5: Clients (misc)	*Client factors affecting service delivery* • Client SRH needs • Client responses to integrated care/service delivery • Factors affecting FP uptake (socio-economic/systems) • Factors affecting FP uptake (physiological) • Client factors affecting effectiveness of HIV services	*Client SRH situation and needs* • Fertility desires • Condom use or dual protection • Concordancy/discordancy issues

4.4 Quantitative data

A structured survey allowed a quantifiable estimate of differences in the process and outcomes of care between case study sites, as well as key differences in the client populations (including their SRH needs). Well-designed structured questionnaires collect unambiguous and easily quantifiable responses, and the sample data could be considered representative of all clients at those sites.

4.4.1 Survey design and sample size calculations

It was determined that a probability sample of 800 clients was required, comprised of 200 respondents per clinic. Sample size calculations were based on the indicator of 'unmet need for family planning',[16] one of the outcome measures of the survey, as shown in Table 4.5. The SDHS indicated that the current level of unmet need for family planning in the Swazi population was at 24%. It was expected that similar or slightly higher levels would be found among women living with HIV, but that levels in integrated sites could be 10-20% lower than those in stand-alone sites. The table shows the different sample sizes needed in the women sub-group, and then in the whole clinic population if women comprised 70% of the sample,[17] with an alpha of 0.05 and power of 80%. Given the range of values and the budget and time constraints with the survey, it was determined that a sample of 200 per clinic could detect a difference of 15% (0.25-0.4) between clinics with 87% power. Potential refusals were accounted for in the recruitment process, see below.

Table 4.5: Sample size calculations for differences in proportions

Existing data	To detect difference in proportions between sites	Subgroup sample required with 80% power (women)*	Total sample needed†
24% among women (SDHS, unmet need for family planning)	20% : 40%	107	153
	25% : 40%	165	226
	30% : 45%	176	251
	20% : 35%	151	216

* computed with significance level alpha=0.05 (using STATA 10.0).
† If women constitute approximately 70% of clinic population, sample required for all.

[16] % sexually active women of reproductive age who do not want another child in the next two years but are not using a modern method of contraception; or those who are currently pregnant whose pregnancy was mistimed or unwanted.
[17] National data suggested that women comprised 65% of those on ART, but the 70% figure was used to be more conservative with the estimates.

The sample size at Clinic A was anticipated to be lower than other sites due to the low client load at that site (ART at that site had only been operational for 8 months prior to the survey, and total HCTx client load was anticipated to be c.80 clients). Therefore, a census of all clients attending during the survey period was taken at that site, rather than a probability sample (see Section 4.4.4).

Respondents were all HIV positive, both male and female, aged 18 and over and included different types of HIV service users:

- Pre ART HIV clients (i.e. HIV positive clients yet to initiate ART)
- Clients initiating ART
- PMTCT clients (also on ART)
- ART users (refills, general consultations, CD4 tests etc.)

Clients attending for VCT services or HIV test results, or those attending integrated sites only for SRH services were excluded from the sample.

Systematic random sampling (SRS) was used to identify survey participants across the four sites (see Section 4.4.4 below), and respondents were all interviewed by trained interviewers using personal digital assistants (PDAs) when exiting their health care consultation(s) in the facility. Clients who were referred for other services were followed-up after 3 months to verify whether they had received their referral service.

4.4.2 Recruitment and training of fieldworkers

A team of survey fieldworkers was recruited and trained to conduct the survey. The team consisted of a research leader (author), a national Integra research coordinator, a survey supervisor, 10 interviewers, and 3 recruiters (2 of which were also receptionists at the clinics).

All interviewers had previously been trained for an Integra community survey and so were already familiar with certain key topics, including research ethics, PDA use, and themes of SRH and HIV service utilisation. Two fieldworkers were trained initially to pilot-test the paper questionnaire (see below), which was followed by a 6-day training course for all interviewers and supervisors prior to survey commencement. The training course covered the topics to be discussed during the survey; questionnaire content, coding and skip patterns; informed consent procedures; respondent recruitment procedures; and PDA use and data download procedures. Interviewers were also debriefed at the end of the survey.

4.4.3 Design and development of data collection tools

A structured questionnaire was developed to answer the survey research objectives outlined earlier (see Appendix 7). A conceptual model for questionnaire design and analysis is shown below in Figure 4.2. The questions were designed to measure the key outcomes outlined below in Section 4.4.7, as well as pre-identified potential confounding variables.

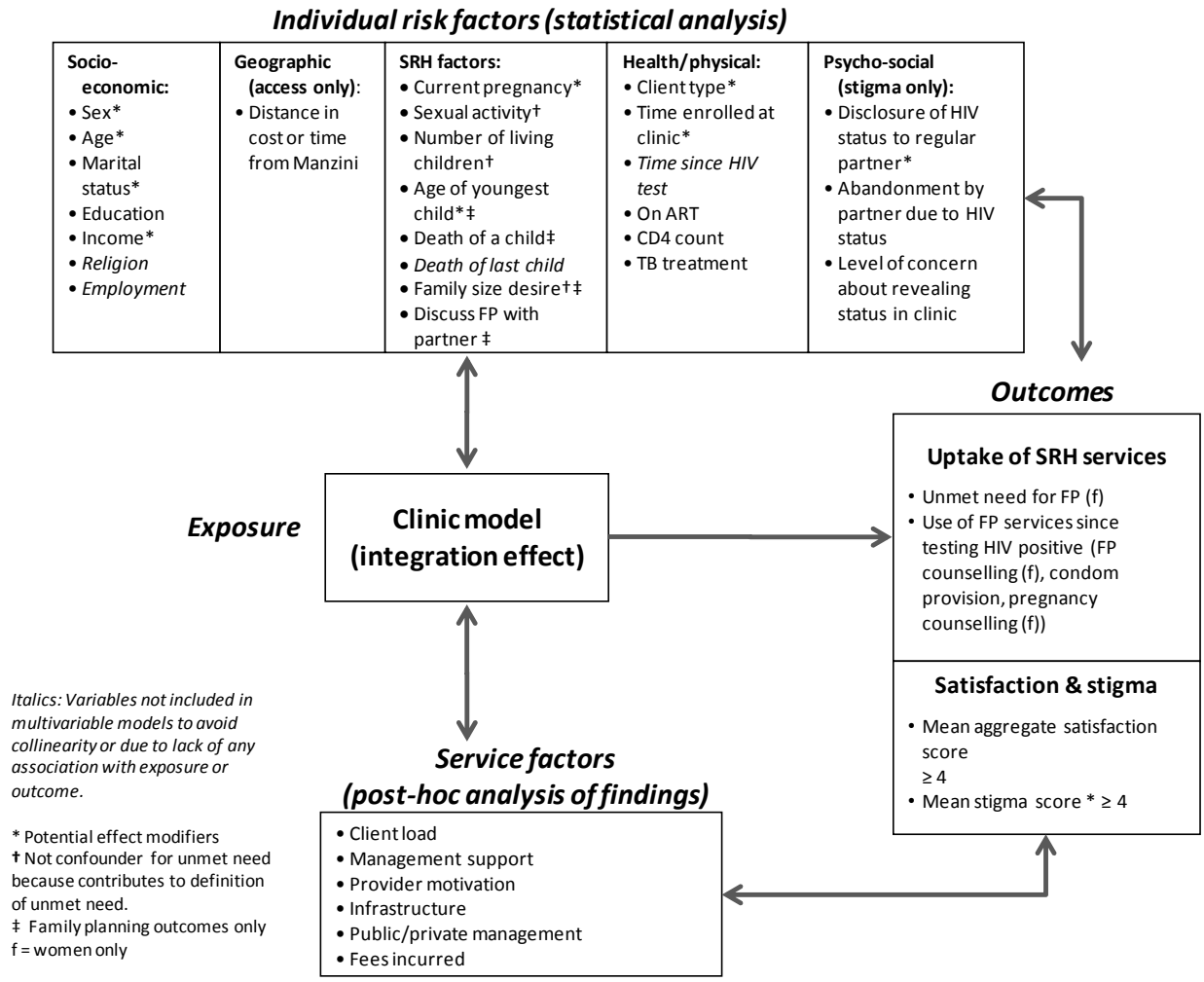
To enhance content, criterion and construct validity, questions were either taken or adapted from existing research tools as much as possible. Existing survey instruments utilised were:

- SDHS Questionnaire
- Integra Family Planning Cohort Questionnaire and Facility Assessment Client Interview Questionnaire
- LSHTM/Tanzania National Institute for Medical Research, ANC surveillance Baseline questionnaire 2007 (Mwanza City and Magu District Health Departments)
- Physicians for Human Rights: Survey on Women's Rights and HIV/AIDS in Botswana & Swaziland (questionnaire)
- Population Council hospital-based stigma instrument (Vietnam) (Khuat et al., 2008)

Any indicators not included in existing instruments (which were identified based on qualitative findings, the literature review, or the clinic characteristics review), were tested during piloting (see below). The questionnaire was divided into the following sections:

Section 1: Background (socio-demographic/economic)
Section 2: HIV service use
Section 3: SRH situation and needs (including contraceptive use, unmet need for family planning, pregnancy status, STI symptoms)
Section 4: Sexual behaviour
Section 5: Services received or referred for (during today's visit and since testing positive)
Section 6: Quality, satisfaction and stigma

Figure 4.2: Conceptual model for questionnaire design and analysis



Attention was paid to the design of the instrument, including ordering of questions (to ensure sensitive questions and questions on satisfaction appeared toward the middle or end of questionnaire), and use of simple and understandable wording. Information on specific measures used in the questionnaire is discussed in the relevant results chapters of the thesis.

Likert scales were used in Section 6 of the questionnaire to evaluate client satisfaction and stigma. When concepts are difficult to measure directly, as is the case with these constructs, a scale comprising a series of questions should be used to tap into different aspects of the concept (Bowling, 2005). Multiple item scales also help achieve validity, by the measurement of multiple dimensions of one concept (de Vaus, 2002). Further, the scaled approach is also useful for measuring perceptions, since it will yield a more precise measure than dichotomous format (Bowling, 2005). The scales were developed conceptually to measure different dimensions of satisfaction and stigma that had been identified either from other studies, or from the first and second round of IDIs. Questions asked clients to rate how much they agree or disagree with a

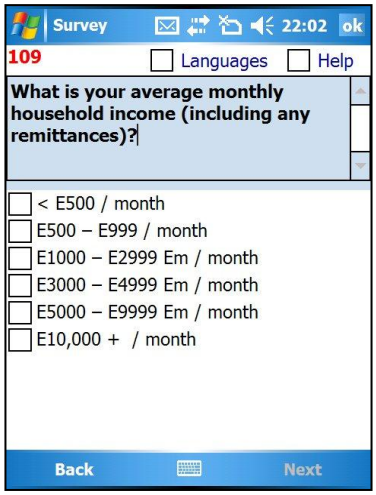
series of statements (1 “strongly disagree”, 2 “disagree”, 3 “mixed feelings, 4 “agree” and 5 “strongly agree”). Respondents were also shown a visual scale to facilitate their responses.

Pilot testing of paper questionnaire

The questionnaire was initially pilot-tested using the paper version in two clinics (B&C) with a sample of 15 respondents. The English questionnaire was translated into SiSwati by a trained researcher at Swaziland Central Statistics Office (CSO), and the translation was reviewed by a bilingual research team member, as well as two interviewers conducting the piloting. The two interviewers were also trained in questionnaire content. The pilot-testing helped identify translation errors, problems with skip patterns, coding errors, and response problems and errors, as well as appropriate mechanisms for respondent recruitment and SRS procedures.

PDA programming

Figure 4.3: Screen shot from PDA



PDAs were used to facilitate data collection by removing the need for data entry, and by automating skip patterns and thus minimising data entry error. The finalised paper questionnaire was sent to an IT programmer for entry into SurveyPlus© software for use on the PDAs (see example screenshot in Figure 4.3). The software was a standardised package developed by programmers in Kenya. The programme was able to display questions in both English and SiSwati (either simultaneously or separately). The questionnaire programme was reviewed by the study coordinator and the research team (in both languages), and errors reported to programmers prior to survey commencement.

PDA Piloting

The last two days of the training programme involved pilot-testing the PDA questionnaire and survey procedures at the four sites. PDA data were downloaded and checked for interviewer errors and coding errors during this phase. Survey procedures identified as challenges during this second stage of piloting included problems with interviewing space at Clinic B; and problems with PLWH identification at integrated sites (B and D).

4.4.4 Survey fieldwork procedures

Participant recruitment

Systematic random sampling (SRS) was used to select and identify survey participants who were attending for any HIV-treatment-related service (either pre-ART, PMTCT or during ART). Sampling intervals were used to ensure an even distribution of respondents over the day and weeks of the survey, which was particularly important in the Swazi context where there were daily and monthly fluctuations in client flow.

To calculate appropriate client sampling intervals, average daily client flows within the clinics were calculated using client load numbers from mangers (see Table 4.6). The SRS calculations also took into account the number of interviewers allocated to each site, the budgeted time to achieve the sample size (approximately 3 weeks), and assumed average interview length (45 mins), thus making 7 interviews a day per interviewer achievable. Sampling interval numbers were also rounded up to make SRS more achievable at busy clinic sites (see table). At Clinic C, where client loads varied substantially depending on whether it was an ART refill day or not, two different sampling intervals were used for the respective types of days. Intervals were not considered fixed; when client load was low, sampling intervals were reduced, and vice versa.

Due to a low client load at Clinic A, respondent recruitment went on 3 weeks longer there than in other sites in order to achieve a maximum sample. As noted in the table overleaf, a census of all HIV clients visiting during the survey period was taken at that site, implying that all HIV clients were asked to be interviewed. Care was taken not to re-interview clients who were returning to the clinic during this longer interview period.

Table 4.6: SRS interval calculations

	Clinic A	Clinic B	Clinic C	Clinic D
Interviewers allocated to site	1	3	2	2
Interviews per day per interviewer	7	7	7	7
Total no. interviews/day at clinic	7	21	14	14
No. days allocated to survey	30	15	15	15
Total sample to be achieved in 3 wks	Census	210*	210	210
Daily average client load (Clinic C busy days) †	10	60	150 (275)	85
% Missed or refused (expected)	25%	25%	30%	25%
Daily average client respondents	8	45	105 (199)	64
Sampling interval	Census	1 in 4 clients	1 in 9 (16) clients	1 in 5 clients
Final sampling interval (N) rounded up for team	Census	1 in 4 clients	1 in 10 (15) clients	1 in 5 clients

* The calculated sample size of 200 was pushed up to 210 due to rounding off for a 3 week survey.
† Based on period Jan-June 2009 at B-D, and on month of Oct 2009 at Clinic A . Clinic C client loads varied considerably if it was a refill day (Wed and Fri); a different sampling interval was used on those days.

In order to identify the correct respondents with the correct sampling interval, small tickets were distributed to every Nth client (by providers, receptionists, or fieldworkers) asking them to participate in the survey and to approach the interview team after their consultation(s). Care was taken to ensure only HIV positive clients were invited, in particular at Clinics A and B. At these integrated sites, providers helped identify clients coming for HIV services. At all sites clients were invited for an interview about their opinions on the clinic (i.e. not mentioning the HIV focus of the interviews). Recruitment and interviewing were conducted all day during opening hours (usually from 8am to 4pm); though on refill days at Clinic C the team started at 6.30am and finished at 2.30pm due to differing clinic operational hours on those days.

In addition to ensuring clients were only PLWH, the aim was also to ensure clients were interviewed at the end of their day's consultation(s) at the clinic. To this end, interviewers asked two initial filter questions before commencing interviews: i) "have you finished all your consultations during your visit today?" (if not, clients were asked to return at the end of their visits); and ii) "did you come here for an HIV-related service (not including VCT)?" (if not, clients were thanked for their time, but not interviewed).

Interviewers also documented respondent refusal rates during the recruitment and interview process, and participation rates are presented in Section 4.4.5 below. Certain problems in recruitment also came to light during the data analysis phase. At Clinic A, the interviewer failed to recruit any PMTCT clients (where theoretically there should have been a similar proportion to

Clinic B), and this was either due to incorrect categorisation of clients (since some respondents were reported as currently pregnant), or problems in recruiting clients from two adjacent buildings at that site. At Clinic D, no ART initiators were recruited, which was later reported due to the fact that the clinic had a freeze on patient initiation during the survey weeks.

Interview procedures

Interviews were conducted in private spaces and in quiet areas in the clinic or within their grounds. Clients were read and given an information sheet and signed an informed consent form (see Appendix 9). Interviewers explained the purpose of the PDA, and responses were recorded directly into the device. Each interview lasted between 20 and 45 minutes. In instances when the PDA software froze, the interviewers used paper copies of the questionnaire to record the remaining responses (see Section 4.4.6 below).

Data capture and management during survey

PDAs were collected regularly throughout the survey by the supervisor for recharging and data download. Data were exported to the PDA memory card and downloaded on the computer as a 'CSV' file (no data entry process was required). The existing data in the SurveyPlus© programme were supposed to then be erased to ensure data were not duplicated. In practice, this last step failed to occur on a few occasions, which resulted in some entries being duplicated in the final data-set, inhibiting the achievement of the total sample size (see Section 4.4.6 below). The CSV files were viewed in Microsoft Excel and reviewed for interviewer or other errors. The total sample size was monitored through interviewer tally sheets and the Excel spreadsheets to ensure achievement of the sample target.

Referral Review

Clients who were referred externally (including to a separate building within the same facility) were asked if they could be contacted after 3 months to ask about their attendance at the referral site. Internal referrals within 1 building were tracked retrospectively instead: interviewers verified if the client had finished their consultations for the day in that building before starting the interview.

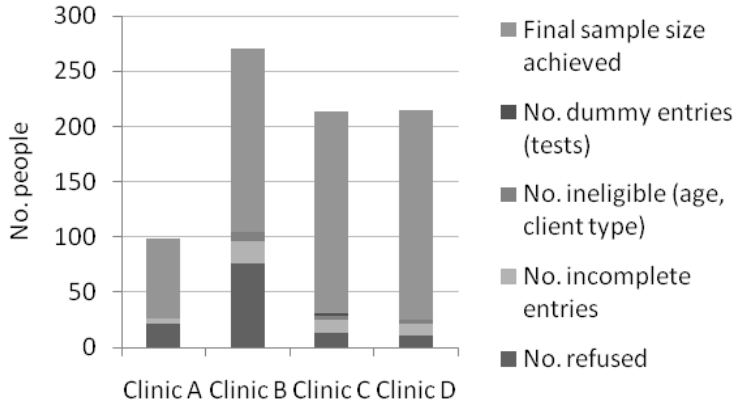
While some initial referral information was captured in the questionnaire, referred clients completed a separate form with the interviewer at the end of the interview (see Appendix 8). Telephone follow-ups were used to track referrals due to the difficulties in tracking referrals within the MoH data system, and all clients asked agreed to be contacted by phone. In cases

where the respondent was not initially contactable, the fieldworker made repeated calls up to a total of three times to attempt contact. In total, out of 42 respondents who were referred, 7 left no contact number, and a further 7 were not contactable. Referral data were stored separately since client names and phone numbers were captured.

4.4.5 Participation rate in survey

Table 4.7 displays the response rate for the survey of the clinic populations (also summarised in Figure 4.4). In total, out of 797 clients approached, a total of 122 clients (15.3%) refused. This figure did vary by clinic, with refusal rates lowest in Clinics C and D (6% and 5% respectively), and highest at Clinics A and B (22% and 28% respectively). However, as noted in the table, the accuracy of the refusal rates in Clinic B was questionable due to measurement problems. No further data on refusals were collected. A total of 47 respondents (6%) also failed to complete the questionnaire,[18] and a further 15 (2%) were ineligible due to age or client type. Two test entries were also included erroneously. This gave a final sample of 611, with 72 clients at Clinic A, 166 at Clinic B, 183 and Clinic C and 190 at Clinic D. The sample size does, however, vary by outcome, due to 9 clients failing to complete the whole questionnaire.

Figure 4.4: Participation rates in survey (N=797)



[18] Incomplete questionnaires were used if all baseline covariate data were completed along with at least one outcome measure. The high number of incompletions was often caused by freezing PDA software.

Table 4.7: Participation in survey

	Clinic A	Clinic B	Clinic C	Clinic D	All clinics
Planned sample size	100*	200	200	200	700
No. people approached	98	270 †	214	215	797
No. refused	22	76 †	13	11	122
% refused	22.4	28.1 †	6.1	5.1	15.3
No. interviewed	76	194	201	204	675
No. incomplete entries ‡	-4	-20	-12	-11	-47
No. ineligible (age, client type)	0	-8	-4	-3	-15
No. dummy entries (tests)	0	0	-2	0	-2
Final sample size achieved	**72**	**166**	**183**	**190**	**611**

* Aim was to achieve as many as possible in the 5 week study period at that site.

† Likely to be overestimate de to problematic recruitment procedures at site

‡ Incomplete if no outcomes or exposure variables not reported (if >=1 outcome reported, then data were used)

4.4.6 Data cleaning and management in STATA

While data had been monitored in Excel during the survey, afterwards all separate CSV files were imported directly into STATA 10.0/11.0[19] for cleaning and analysis. Separate PDA files were imported and merged into a common dataset. In cases where PDAs had frozen, a separate Excel file was generated and missing variables completed using the paper questionnaires (where interviewers had entered remaining data manually). Data were merged based on the Client ID identifier. Referral follow-up-data were also entered into a separate Excel spreadsheet, which was imported and merged using the Client ID identifier.

Although data entry errors were minimised through use of the PDAs, scope still existed for incorrect interviewer entries and programming problems. The data were first checked for double entries, and duplicates were then identified and dropped. Basic frequency distributions were calculated (tables and graphs) to explore the data and decide: whether outliers should be included or excluded in the analysis; to review how much missing data were there and how they should be handled; and to review distributions for key variables. Consistency checks were also conducted, for example checking whether those on ART had a specified entry for number of months on ART.[20]

Data reduction was conducted to regroup values of certain variables, either to categorize continuous variables, or to reduce the number of categories for certain categorical variables

[19] STATA 10.0 was used for data entry and cleaning. STATA 11.0 was used for analysis.

[20] Since the data were collected using PDAs, it was not possible to check the original data entry medium, aside from looking across individual responses.

where aggregation made sense, either conceptually or statistically. In instances where there was an unexposed category in a categorical variables (e.g. never had partner, in number of sexual partners), this was always left as a separate group. Continuous variables were grouped in order to use stratification methods to examine how the level of the outcome changed with exposure levels. Cutting numerical groups into quartiles or quintiles was generally avoided if the data were skewed. For variables included in multivariable analysis as confounders, further data reduction was performed to reduce variables to a maximum or four categories.

For the logistic regression modelling, there was only one instance where an explanatory variable contained missing data (number of months at clinic); in this case, the population median for the subject's age group was assigned to the case.

4.4.7 Statistical analyses of quantitative data

All statistical tests were two-tailed, and interpreted at a 5% confidence level.

Descriptive analysis

Tables were generated to present an overview of the data. Each indicator of interest was tabulated by clinic (in some instances by sex where differences were evident or important). For key variables of interest or for variables with interesting or unexpected results, graphs have been displayed where appropriate. Data were compared across the four clinics as follows. For categorical and binary variables, the χ^2 test was conducted to evaluate differences in proportions; and where cell sizes were small (<5), Fisher's Exact test was used. For continuous variables, means were tabulated with standard deviations, and an analysis of variance (ANOVA) was conducted across clinic site; a post estimation test was used (Tukey-Kramer pairwise comparison) to test for differences between sites. In instances where distribution was skewed, the median (with inter-quartile range) was calculated, and a log transformation was applied to the analysis of variance.

Analysis of relationship between clinic model and primary outcomes

Following descriptive analyses, the survey aimed to investigate the following hypotheses:

- Clients at integrated clinics will have significantly increased odds of the following outcomes after controlling for confounding factors:

1. Ever received family planning services since testing positive: family planning counseling (women only); condom provision (all clients); and pregnancy counseling (women only)
2. Mean client satisfaction score (composite score) (all clients)

- Clients at integrated clinics will have significantly decreased odds of the following, after controlling for confounding factors:
    1. Unmet need for family planning (women only)
    2. Mean clinic stigma score (composite score of disclosure risk) (all clients)

For variables associated with contraceptive use (other than condoms), only women (N=476) were included in analysis of the association between clinic model and outcome. This was because men's reporting of partner contraceptive use was considered to be unreliable due to large potential recall bias.

The primary exposure for the analysis is clinic model, a categorical variable for each of the four clinics (A-D). Clinics were not grouped into integrated and stand-alone sites due to differential effects between the two sets of clinic types.

Rationale for use of multivariable models

Given the substantial potential differences in client populations across clinic models within this observational survey, multivariable logistic regression methods were chosen to statistically approximate equal comparisons of groups. Figure 4.2 on page 89 displayed the covariates which may act as potential confounders in the association between clinic model and outcomes, and their associations with family planning outcomes were discussed in Chapter 2.

Since the aim of the analysis was not to produce a predictive or diagnostic model with the fewest number of variables, but rather to adjust for baseline differences between clinics, an 'all variable' model approach was used (Katz, 2006). Strictly, a confounder is associated with the exposure (clinic model), and causally associated with the outcome (Kirkwood & Sterne, 2003). Ideally, however, multivariable models aiming to adjust for differences in baseline characteristics should include variables that are theorized or shown in prior research to be associated with the exposure and the outcome, in order to control for modest confounders and the associations between them, and to control for suppresser effects of some covariates (negative confounders) (Katz, 2006). All variables conceptually related to the outcomes (see

Figure 4.2 on page 89) were therefore included in the logistic regression models (but collinear variables were excluded to avoid over adjustment, see below).

A large number of potentially confounding variables is, however, problematic. The fit of the data to multivariable models is improved and precision increased when the model is as parsimonious as possible. Models with large numbers of confounders can be underpowered if there are less than 10 outcomes per covariate in the model (Harrell et al., 1996), an issue of concern for this study.[21] Furthermore, estimates of multivariable models with large numbers of covariates can be biased and confidence intervals unreliable due to the large numbers of parameters in the model (Cousens et al., 2010). Estimates can also be biased if covariates are heavily imbalanced or if treatment effects vary across different levels of the covariates (D'Agostino & D'Agostino, 2007).

Propensity score matching (PSM) was considered as an alternative method to control for confounding. PSM methods are a powerful technique to reduce bias and study causal effects (Rosenbaum & Rubin, 1983; Sturmer et al., 2006). They estimate the predicted probability of exposure (clinic attendance), based on his or her characteristics.[22] It was not used, however, due to a lack of empirical evidence that such methods control for confounding more effectively than conventional modelling (Sturmer et al., 2006; Cousens et al., 2010); and because such methods are not appropriate in situations with strong exposure-confounder associations (which is the case with this dataset) (Cook & Goldman, 1989). Furthermore, PSM has rarely been applied to test outcomes with categorical exposure variables (Huang et al., 2005; Spreeuwenberg et al., 2010). While multinomial regression methods could be used to develop predicted probabilities of attendance at clinic, methods to test important assumptions of PSM vary in application with categorical exposures, and statistical programme commands for these tests, unlike standard PSM, have yet to be developed. It was therefore determined appropriate to proceed with an 'all variable' multivariable logistic regression.

[21] For example, for the outcome of 'unmet need for family planning', the smallest outcome category had 119 cases, indicating that more than 11 covariates could be problematic.

[22] Under the assumption that all relevant predictors of clinic have been adequately captured, subjects with the same PS should have the same chance of clinic attendance (i.e. a replication of randomization) (Sturmer et al., 2006).

Univariable anlaysis

Crude regression analyses examined associations between all explanatory variables and the primary outcome variables. In this study, univariable analysis was primarily undertaken to understand the distribution of confounding variables by clinic, rather than as a model-building tool.

Interaction

Based on prior knowledge of the four clinics and preliminary analyses of qualitative data, several variables were identified a priori as potentially interacting with clinic model (see asterisked items in Figure 4.2 on page 89). Stratum-specific odds ratios of the association between clinic model and outcome were tabulated for each of these variables in a bivariate analysis, using the Mantel-Haenszel method. Variables which showed strong evidence of homogeneity of odds ($p<0.05$) were considered not to be interacting with clinic type (and vice versa). For variables suggesting interaction, logistic regression models were constructed with and without an interaction term, and the likelihood ratio test for interaction was conducted; interaction was considered to be occurring when $p<0.05$. In instances when strong interaction was identified (i.e. when odds ratios were markedly different and confidence intervals did not overlap), stratum-specific odds ratios were reported.

Multivariable analysis

Multivariable logistic regression models were used to conduct adjusted analyses on the association between clinic model and outcomes. Given the potential problems noted earlier with complex models with many covariates, the following methods were used to try and minimise the number of parameters in the models and avoid problems of over adjustment and multiple collinearity.

In cases where variables were conceptually related, only one variable was selected to include in the model, usually the one that was most strongly associated with outcome. Associations between conceptually related covariates were tested statistically through a Spearman's rank correlation (linear) or χ^2 tests (categorical), as follows:

a. Monthly household income with employment status (χ^2, $p<0.001$)

b. Distance to clinic (time) with distance to clinic (cost) ($r^{2,}$ $p<0.001$)

c. Months since clinic enrolment with months since HIV test ($r^{2,}$ p<0.001) (these variables are also correlated with months on ARVs, but the latter was entered separately as a binary variable 'On ART')

d. Death of last child with death of (any) child (χ^2, p<0.001)

One variable, religion, showed no evidence of association with either clinic model or any outcomes evaluated in this thesis and was therefore not included in multivariable models.[23] Variables that perfectly predicted outcome due to a very small number in one category were either dropped (if unassociated with exposure or outcome) or regrouped into smaller categories or binary variables.

Models were then constructed with all remaining potential confounders. Firstly, the model was checked to verify that it would run, and to check for collinearity problems. Variables were also added one by one to the crude model to identify the main confounders and direction of effect. If certain variables had a strong effect on the odds ratio, or if variables did not have an expected association, further checks were conducted (removal of variables, cross tabulations, stratified analyses) to investigate the causal mechanisms in the model. If the model ran successfully, all remaining confounders were left in the model.

The main confounders were identified by adding in variables one by one to a crude regression model; those that changed the odds ratio by ≥ 10% were considered to be important confounders.

Sensitivity analyses

In certain instances sensitivity analyses were conducted to investigate how the inclusion or exclusion of certain variables impacted on the models (examining effect on the odds ratios and/or using likelihood ratio tests). These were in cases where data were only available for a sub-set of the population, or in instances where variables had been excluded for collinearity reasons. These analyses have been highlighted in the specific results chapters. A sensitivity analysis was also conducted on each outcome presented to examine the difference in the adjusted effect of clinic between an 'all variable' model and a parsimonious model (only including those associated with exposure and outcome (p<0.1)). While the more parsimonious models sometimes yielded greater precision (smaller confidence intervals), odds ratios were not

[23] 88.7% of the sample practiced some form of Protestantism (see page 113), which likely explains the lack of effect.

generally affected (≥ 10%) and it was felt that a more robust estimate of the effect of clinic on outcome would be achieved by including all theoretically associated covariates.

4.4.8 Presentation of preliminary findings

Preliminary data (from both qualitative and quantitative components) were presented to providers at the four clinics in March 2010, which, while not strictly a form of respondent validation, allowed discussion of results. The findings were presented publically on several occasions, including at a National Health Research Conference in Swaziland, as well as internally at Integra project meetings, allowing scrutiny and critical examination. Further detail is presented in Chapter 10.

4.5 Ethical issues

Informed consent was obtained from each study participant (see Appendix 9), in English for providers, and in SiSwati for clients. Consent forms assured anonymity for all participants with the following caveats: exit survey participants were told that their name and contact number would be requested in a separate form if they were referred; IDI clients were told that their name and phone number would be captured on a separate form in order to arrange follow-up interviews; and providers were alerted that small sample size groups in the clinics may pose a risk to identity disclosure.

Confidentiality of interview data was assured through numeric coding, and all questionnaires were anonymous. Recordings were kept in password protected computers and will be destroyed after the study. Transcripts had no signs of identification of participants and participant ID numbers were used instead. Records of client names and phone numbers for follow-up were stored in locked filing cabinets, electronic files were password protected, and data with personal information were stored separately to questionnaire data. Data files on the PDAs were erased after each download process. The nature of the survey (i.e. about HIV) was not advertised at the clinics, and all participants were informed discretely of the survey content. As noted earlier, survey recruitment tickets did not divulge the exact nature of the survey.

Anonymity: care has been taken to ensure that quotes have been anonymised (e.g. doctors and nurses roles are not identified in quotations).

Participant discomfort could have arisen when interviewing clients since respondents were asked to discuss their personal life, including HIV status, contraceptive use, and sexual

behaviours. Some survey respondents and all client IDI respondents were recently initiating ART; discomfort could have arisen due to their coming to terms with a positive status, and all were interviewed on the day of HIV treatment initiation. All interviewers were trained in sensitive questioning, and were equipped with information sheets on SRH and HIV services in the Manzini region for those requiring more information. Participants were informed that they could stop the interview at any time, and in a small number of cases (survey) this did occur, either due to sensitivity or timing issues. On some occasions during IDIs, clients were uncomfortable discussing their sexual health and relationship status, and interviewers were careful not to press clients on these issues: delicate topics were broached again in the second and third rounds, when more trust had been gained.

5. The four study clinics and their populations

Introduction

As described in Chapter 1, the aim of the study is to compare health care processes and outcomes across four different 'models' of HIV care. The aims of this chapter are therefore to describe the characteristics of the four case-study clinics and their client populations; and to investigate the extent to which the clinics represent the model that they were chosen for (i.e. how integrated they are). It contains data from multiple sources: (i) the clinic characteristics review, (ii) the exit survey, and (iii) IDIs with clients and providers. The data presented here are primarily descriptive, and provide an important basis for embarking on qualitative and quantitative comparisons of the four sites. The chapter starts with an overview of the clinic models, including data on location; clinic characteristics (type, services, management, fees, staffing, client load and facilities); and standard HCTx processes. The second section looks at the characteristics of the client population across the four sites using data from the client exit survey. The last section looks at clinic structure, including the level of integration and client flow processes, using both quantitative and qualitative data.

5.1 Methods & measures

The chapter includes descriptive statistics on client profile and service use. Differences across clinic are tested statistically using the $\chi 2$ test for categorical variables, and analysis of variance for continuous variables.

Measures used in the client exit questionnaire were mainly adapted either from the SDHS questionnaire, or from instruments used in other components of the Integra project, in order to ensure validity and reliability of measurement. Measures developed specifically for this study, and are now discussed in more detail.

For place of residence, two proxy measures were used: 'time taken to arrive at clinic (in minutes)' and 'cost to arrive at clinic' (one way). While these measures do not give an indication of precise geographic location, they are critical determinants of access to care.

For the measure of client type, categories were developed based on the care process outlined on page 109, and confirmed with clinic providers and through field-testing. Clients were asked

to classify themselves as having come for one of the following primary reasons: ART refill, ART initiation visit, ART user consultation (check-up, CD4 tests, blood tests, problems, etc.), adherence counselling, including CD4 tests, getting co-trimoxazole, general consult), PMTCT counselling, or for other HIV-related care. These were then regrouped into a smaller number of categories.

5.2 Clinic characteristics

Table 5.1 displays information on key characteristics of the different sites.

5.2.1 Clinic type

All sites offered out-patient primary HIV care. Clinic A is an integrated SRH-HIV clinic; originating as a family planning clinic, the largest client group attend for MCH. This clinic also advertised itself as a 'youth-friendly' clinic: it had a separate building for delivering services to young people (including a games area), ran youth clubs and activities, and staff were trained to counsel youth. Clinic B is a 'public health unit' (PHU): effectively an urban primary care centre focused on MCH. It is also an integrated site since VCT, PMTCT and HCTx services have been added over recent years. Clinic C is an HCTx out-patient unit on the campus of the district hospital, theoretically implying easy access to in-patient and specialised diagnostics and laboratory services. Clinic D is a primary care HIV clinic (offering both VCT and HCTx). As noted in Chapter 1, all were relatively centrally located in the town of Manzini.

Clinics A and D are both NGO-run clinics, while B and C are predominantly public sector sites. However, there has been substantial NGO involvement at the two public clinics (including in infrastructure, training, ART management systems), and the boundaries between public and NGO in this setting may be more blurred than elsewhere due to the high levels of donor and NGO involvement in public sector HCTx services. Clinic C was also co-managed by a missionary NGO. Nevertheless, there were observable differences in aspects of cleanliness and modernity (higher at the two NGO clinics).

5.2.2 Services

The two integrated sites, A and B, both offered a full range of SRH and HIV services, but in different ways. Clinic A was intended to represent a model of 'full' or 'provider-level' integration, since HIV clients were supposed to get care from any provider, and get SRH delivered simultaneously with HIV services. Clinic B was chosen as a model of 'partial' or 'room-level' integration, since the clinic had dedicated HCTx providers and rooms. Both integrated

clinics started as SRH sites, which subsequently added in ART. Clinic A is the local affiliate of the International Planned Parenthood Federation. Both clinics have advertised themselves internationally as fully integrated SRH clinics (Chouraya, 2007; Phakathi, 2009). Clinics C is an ART clinic, but other services were available on site within the hospital campus, including MCH, family planning and gynaecological services. VCT, TB and paediatric HIV units were located next to the ART building. Clinic D only offered HIV testing and treatment (including STI treatment), and clients were referred out for other needs.

Since HIV treatment has only been available in Swaziland in the public sector since 2004, there was not a wide variation in clinic experience in providing ART (see Table 5.1); Clinic C had provided it longest (since 2004), and Clinic A shortest (starting 6 months before the survey). All clinics reported year-on-year increases in numbers of patients on ART, including during the course of the study. ART was theoretically free at each site, though all clinics entailed forms of supplementary client fees for additional exams, tests or referral services (see Table 5.1 and further data from the exit survey in Section 5.5). Some clinic staff indicated that there was scope to waive these fees for important tests if clients could not pay, but there was no formal system for this.

5.2.3 Management

While all clinics had an on-site clinical manager -- a senior nurse at Clinics A and B, joint management between and nurse and doctor at Clinic C, and a doctor at Clinic D -- the two NGO sites A and D had greater on-site administrative and project management support. Clinic C had an additional layer of management authority through the senior doctors and administrators at the hospital, but in practice these were often circumvented and the MoH and its NGO partners often worked directly with the ART clinic. In this way, it had a greater degree of autonomy from the hospital than other in-patient units (Personal communication, Chief Medical Officer at Clinic C).

Table 5.1: Clinic characteristics (general)

	Clinic A (Provider-level integration)	Clinic B (Facility-level integration)	Clinic C (Stand-alone HCTx unit)	Clinic D (Stand-alone HIV facility)
Type of clinic	NGO-run SRH clinic	Government-run public health unit (PHU) (primary/secondary care).	Half government-/half mission-run district hospital (ART unit).	NGO-run HIV clinic
History	First opened 1984 as a FP clinic. Adopted integrated SRH model c.1995. ART first provided in February 2009.	Clinic first opened as a PHU c.1960. ART first provided in February 2007.	Hospital opened in early 20th Century. ART first provided in 2004.	First opened, and ART first provided in Sept 2007.
Services provided	Full range of SRH & HIV services (FP, STI, ANC, PMTCT, PNC, VCT, ART, pap smears). Separate building for 'youth', which also served post-natal & child welfare clients. Pre-ART care available.	Full range of SRH & HIV services (FP, STI, ANC, PMTCT, PNC, VCT, ART, pap smears); some other services (dental, skin). Pre-ART care available.	ART services only (limited pre-Art); VCT & TB units located adjacent to clinic. Full range of out-patient and in-patient services available in the hospital (including FP & MCH).	HIV services only (VCT, HIV monitoring, ART). Pre-ART care available. STI syndromic management also available (treatment of OI).
Clinic management	Managed by NGO Programmes Director, with junior management by a senior nurse	Managed by a senior nurse.	ART clinic co-managed by doctor and senior nurse. Hospital has own management structure.	Managed by the senior doctor, with administrator support.
External support	Subsidies from MoH to provide SRH services; long-term support from IPPF; project support from USAID, PEPFAR, World Bank, Gates Foundation.	Support from USAID & PEPFAR through implementers EGPAF & ICAP. Independent support from EGPAF.	Christian Church NGO runs hospital with MoH. ART unit built & equipped by Global Fund. ART unit support & training from ICAP & MoH.	HCTx run by AIDS Healthcare Foundation. Building owned by Manzini council. Clinic run in partnership with AMICAALL. Support from Clinic A & PSI (VCT nurses).
Fees[1]	HCTx is free, but with registration fee of E4.50.[2] Fees charged for other SRH services.[3]	HCTx is free. Small registration fee (E.4.00) for most other services; some tests charged for (e.g. pregnancy tests).	All HIV services free (VCT & HCTx). Other services in out-patient units incur small fee (e.g. xrays, pregnancy tests).	All services and drugs are free. Fees incurred if referred for other care, e.g. x-rays up to E120.
SRH-HIV staffing at time of study[4]	4 nurses (covering both buildings) of which 1 focused on ART; doctor (2 afternoons/wk); adherence counsellor.	Nurses: 4 MCH, 2 FP, 1STI, 1 VCT, 2 ART. 1 ART doctor (full-time).	4 full time doctors, 6 nurses (all ART only) (2 VCT nurses next door).	3 ART nurses; 2 VCT nurses; 2 doctors (1 of whom is also clinic/NGO manager)

1 As reported during clinic characteristics review; actual costs incurred varied (see Section 5.6)

2 Exchange rate: 1.00 Emalangeni (SZL)= £0.08

3 For example, contraceptives: 1st cycle of oral contraceptives E10 (then E5.00 thereafter), injectables are E30 (for 3months), IUD insertion E50; VCT E10; pap smear E30.

4 Other staff also onsite at all clinics include lay counsellors/expert clients, lab technicians, pharmacists, receptionists and data management clerks. Staffing levels at time of exit surve

5.2.4 Staffing and client load

Staffing levels varied across the sites (see Table 5.2), and also by day of the week if staff were engaged in outreach activities. Clinic C was the largest facility, with six full-time nurses and four full-time doctors. The other three clinics were all smaller, with one or two doctors each, and between two and four nurses. Client loads varied markedly across sites, with the highest by far at Clinic C with 24 clients per provider per day,[24] and observations showed clients routinely queuing out the door to get ART refills. Clinic A had the lowest load, though it should be noted this is an average taken during the first year of ART service, and client numbers were increasing steadily throughout the period: by December 2009, daily averages were still low but had increased to 8 HIV care clients per provider. Furthermore, the nurses (and sometimes the doctor) at this site would see SRH patients as well, so actual load is underestimated. Clinics B and D had similar loads between 14 and 16 clients per provider.

Table 5.2: Client load (ART) July-Dec 2009

	Clinic A*	**Clinic B***	**Clinic C †**	**Clinic D***
Total new clients for 6 months	93	294	*811*	489
Total refill clients for 6 months	468	3194	*30,753*	9807
Average ART clients per month	94	581	*5261*	1716
Daily average	11.7‡	27	*243*	79
No. ART providers working on-site at one time	2	2	*10*	5
Average load per ART provider	**6.0**	**13.5**	**24.0**	**15.8**

Source: Clinic ART data (through data managers)

*These numbers are underestimated since they do not cover pre-ART clients who also attended these sites. While some clinics kept a tally of total pre-ART clients registered, they did not have monthly attendance figures for pre-ART clients.

†Data are for 6 months Sept 2009 to Feb 2010 as preceding monthly data unavailable at time

‡ At Clinic A, while four nurses generally worked at one time, at the time of the study only one nurse seemed to be providing ART. In addition, the doctor at this site was sessional, working only two afternoons a week. The calculation is based on 2 days ART provision per week.

[24] This figure may be overestimated, since data clerks were unable to confirm whether the monthly ART refill numbers included only active clients, or whether it may also include those who had dropped out.

5.2.5 HIV-related facilities and care process

Clinics differed in their capacity to conduct various HIV-related tests. Clinic C, the hospital, had the most advanced laboratory facilities, so that CD4, liver function tests and full blood counts could all be conducted on-site at the hospital lab. The hospital also had x-ray facilities, unlike the other sites. At Clinics A, B and D, test samples were sent to central laboratories in Mbabane. Clients requiring x-rays, other diagnostic tests or more complex treatment for HIV-related OIs or morbidities were referred (usually to Clinic C).

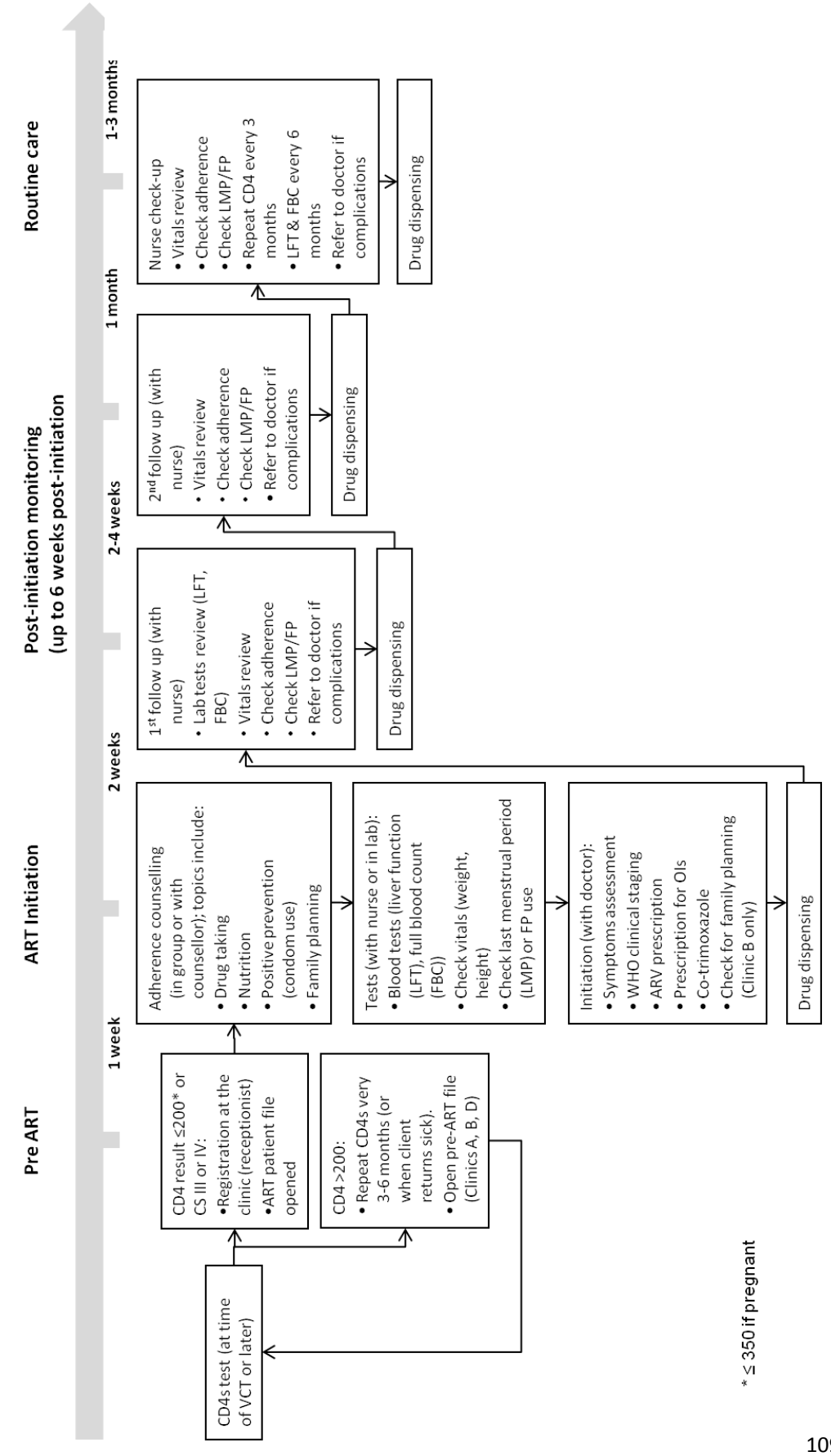
Clinics A and D had programmes to provide psycho-social support to clients, either through support groups or home visits, but it was not clear to what extent these were operational. All clinics had 'expert clients' on site, including the adherence counsellors, and 'Mothers-to-Mothers' counsellors who were specifically there to counsel pregnant HIV positive women.

Clinics A and C also offered food parcels to clients, all publicly subsidized. It was unclear why these were unavailable at Clinics B and D, but clients at Clinic C also complained that the parcels were infrequently available, and staff there reported that supplies were insufficient.

Since all clinics were accredited by the MoH to provide ART, all clients entered a similar process of care following ART initiation. The standard process is displayed in Figure 5.1. Points to highlight are that adherence counselling conducted by lay counsellors was mandatory across all sites, but it was individualised at Clinic A, and in groups elsewhere.[25] Observations showed that all sites covered similar topics including general counselling on HIV, drug adherence, CD4 counts, viral loads, nutrition, positive prevention/reinfection (condom use for PLWH), STI prevention and treatment, pregnancy, PMTCT and family planning.

[25] Based on observations of adherence sessions: c.10 clients/group at Clinic B, 50 at Clinic C and 4 at Clinic D.

Figure 5.1: Standard HCTx processes across the four sites



The first two months of treatment are clinic-visit intensive, involving the need for blood tests prior to and following initiation (two between 2 and 6 weeks after, depending on clinic). Following this, clients would then return for ART refills every one month at first, and then once stabilised every 2-3 months, depending on clinic procedures and clinical progress. Across all sites, providers adhered to the same MoH protocols for drug prescribing and management. Clients who did not reach the initiation threshold (CD4 count >200, or >350 if pregnant) were monitored through repeat CD4 tests, every 3 to 6 months at Clinics A, B and D (registered as 'pre-ART'); at Clinic C, there was no capacity to monitor patients in the pre-ART period with active files (i.e. no continuous history could be taken), but they were still told to return for repeat CD4 tests.

Women who tested positive in ANC (sites A-C) were transferred to the ART unit at 6 weeks post-delivery. If the child was positive, both mother and were supposedly able to get treatment together at Clinics A, B and D; at site C, the baby had to attend the paediatric unit. For women who fell pregnant while on ARVs, clients at Clinics A-C could receive MCH services, but not in the same room as ART, since ANC and PNC were always separated. Clients who fell pregnant at Clinic D were told to attend ANC elsewhere (either local clinic or at Clinic A or B).

5.3 Description of clinic population

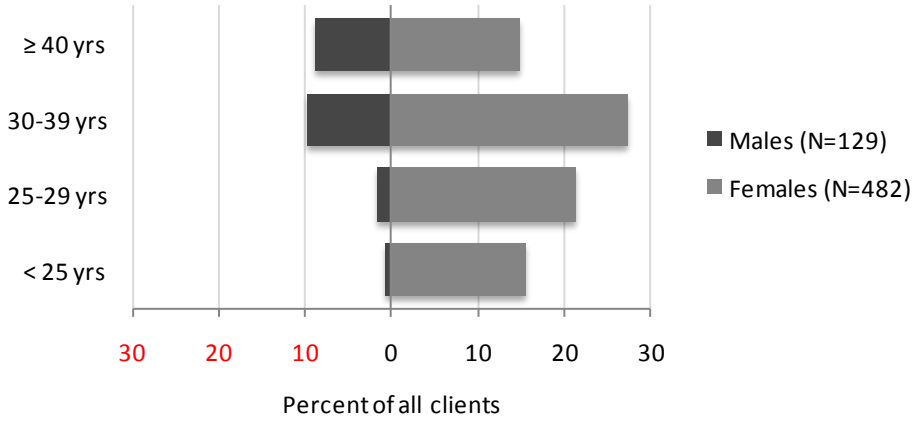
This section uses data from the cross-sectional exit survey.

5.3.1 Socio-demographic characteristics

Table 5.3 displays the key socio-demographic characteristics of the survey population, by clinic model. The age and sex distributions of the whole clinic populations, by sex, are also displayed in Figure 5.2. Nearly 80% of the survey population was female, with a similar distribution observed across clinics: Clinic B had the highest proportion of women (88%), and Clinic C the lowest (74%). The median age was 32, which was similar across clinics except in Clinic B which had a slightly lower median age of 28 years. Overall, a very high proportion of participants were in their 30s, with few under 25s or over 40s. The peak age group for men was later than for women (35-44 vs 25-34), a function of national HIV prevalence rates. While many participants were married (34% monogamously, 4% polygamously), a large proportion were in more informal unions, either living with the partner (13%) or with a partner living elsewhere (30%). Only a small proportion was single (6% single, 12% divorced/widowed/separated). The

distribution of marital status in Clinic A differed from the other three sites, with a higher proportion of single clients, a higher proportion married monogamously, and a lower proportion in an informal union living with a partner.

Figure 5.2: Age distribution, by sex



Overall, the majority of respondents had attained a secondary school education, either uncompleted (42%) or completed (18%). Few clients had no education (8%), and few had achieved tertiary education (2% incomplete, 5% complete). The distribution of educational attainment was similar across clinics, with the exception of Clinic A where a much higher proportion had completed tertiary education (21%). Clinic C had the highest proportion with no education (12%).

In terms of religion, there was little difference between sites (p=0.409), with almost all participants observing some form of evangelical Protestantism or, in its extreme form, Zionism, all of which are widely practised in Swaziland.

Lastly, the clinic populations differed in terms of residence. According to both measures (cost and time), the majority of all respondents lived relatively close to their clinic: 48% living less than 30 minutes away and 46% spending less than E5.00 to arrive (c.40p). Clients at Clinic A tended to live further away and to spend the most to arrive at the clinic.

Table 5.3: Client profile (socio-demographic)

Variable	Clinic A	Clinic B	Clinic C	Clinic D	All clinics	P value (χ^2)
	% (N)	% (N)	% (N)	% (N)	% (N)	χ^2
Sex						
Male	23.6 (17)	12.1 (20)	25.7 (47)	23.7 (45)	21.1 (129)	0.009
Female	76.4 (55)	88.0 (146)	74.3 (136)	76.3 (145)	78.9 (482)	
Age (group)						
Less than 25	22.2 (16)	28.9 (48)	10.4 (19)	9.0 (17)	16.4 (100)	<0.001
25-29	19.4 (14)	28.9 (48)	21.3 (39)	20.5 (39)	22.9 (140)	
30-39	41.7 (30)	33.1 (55)	37.7 (69)	38.4 (73)	37.2 (227)	
40 or over	16.7 (12)	9.0 (15)	30.6 (56)	32.1 (61)	23.6 (144)	
Median age (IQR)						
Median age	32 (25.5-37)	28 (24-32)	34 (28-42)	35 (28-42)	32 (26-39)	
Marital status						
Single	11.1 (8)	4.2 (7)	9.3 (17)	2.1 (4)	5.9 (36)	<0.001*
Married monogamous	43.1 (31)	31.3 (52)	32.2 (59)	35.8 (68)	34.4 (210)	
Married polygamous	0.0 (0)	1.8 (3)	6.0 (11)	4.2 (8)	3.6 (22)	
Partner living elsewhere	30.6 (22)	34.9 (58)	31.2 (57)	25.8 (49)	30.4 (186)	
Living with partner	5.6 (4)	24.7 (41)	9.3 (17)	10.5 (20)	13.4 (82)	
Divorced/widowed/ separated	9.7 (7)	3.0 (5)	12.0 (22)	21.6 (41)	12.3 (75)	
Education						
None	5.6 (4)	7.2 (12)	11.5 (21)	5.3 (10)	7.7 (47)	<0.001*
Primary incomplete	5.6 (4)	24.1 (40)	20.8 (38)	9.5 (18)	16.4 (100)	
Primary complete	8.3 (6)	7.2 (12)	14.2 (26)	9.5 (18)	10.2 (62)	
Secondary incomplete	36.1 (26)	42.8 (71)	40.4 (74)	43.7 (83)	41.6 (254)	
Secondary complete	19.4 (14)	16.3 (27)	9.3 (17)	25.8 (49)	17.5 (107)	
College incomplete	4.2 (3)	1.2 (2)	0.6 (1)	2.1 (4)	1.6 (10)	
College complete	20.8 (15)	1.2 (2)	3.3 (6)	4.2 (8)	5.1 (31)	
Religion						
None	5.6 (4)	3.6 (6)	4.9 (9)	3.7 (7)	4.3 (26)	0.409*
Charismatic	22.2 (16)	12.7 (21)	27.3 (50)	17.9 (34)	19.8 (121)	
Protestant	18.1 (13)	20.5 (34)	12.0 (22)	21.6 (41)	18.0 (110)	
Catholic	12.5 (9)	4.2 (7)	6.0 (11)	8.4 (16)	7.0 (43)	
Pentecostal	13.9 (10)	12.1 (20)	3.8 (7)	9.5 (18)	9.0 (55)	
Zionist	23.6 (17)	32.5 (54)	34.4 (63)	29.0 (55)	30.9 (189)	
Apostolic	4.2 (3)	14.5 (24)	11.5 (21)	10.0 (19)	11.0 (67)	
Residence (time from clinic)						
0-30 mins	34.7 (25)	46.4 (77)	45.9 (84)	55.8 (106)	47.8 (292)	0.008
31-60 mins	43.1 (31)	39.8 (66)	33.9 (62)	22.6 (43)	33.1 (202)	
61-90 mins	12.5 (9)	7.2 (12)	7.7 (14)	8.4 (16)	8.4 (51)	
Over 90 mins	9.7 (7)	6.6 (11)	12.6 (23)	13.2 (25)	10.8 (66)	
Residence (cost from clinic)						
E0-E5	33.3 (24)	61.5 (102)	37.7 (69)	44.7 (85)	45.8 (280)	<0.001
E6-E10	25.0 (18)	23.5 (39)	23.0 (42)	24.2 (46)	23.7 (145)	
E11-E20	20.8 (15)	9.0 (15)	30.6 (56)	19.5 (37)	20.1 (123)	
Over E20	20.8 (15)	6.0 (10)	8.7 (16)	11.6 (22)	10.3 (63)	
Total	**100.0 (72)**	**100.0 (166)**	**100.0 (183)**	**100.0 (190)**	**100.0 (611)**	

*χ^2 test on condensed/aggregated variable to increase cell numbers

Table 5.4 displays the socio-economic status of the survey population, according to four different socio-economic indicators. According to the first three indicators of wealth (income, meat consumption and water source), some clear differences emerged across clinics. Specifically, a higher proportion of clients at Clinic A lay in the wealthiest income category (26% have a household income >E5000/month), in stark contrast to Clinics B and C which had only 1.2% and 1.6% of clients respectively in those groups. This is also reflected in the meat consumption patterns (40% of Clinic A clients ate meat every day vs an average of 19%), and the water source patterns (29% of Clinic A had their taps in their houses vs an average of 10%). Clinic C had the highest proportion of very poor clients, with 50% reporting monthly household incomes of less than E500, 9% reporting never eating meat, and 21% reporting using the river as a water source. These differences are also clearly related to employment patterns. Overall, unemployment was very high across the study sample (49% overall), but highest in Clinic C (61%).

Table 5.4: Client profile (socio-economic status)

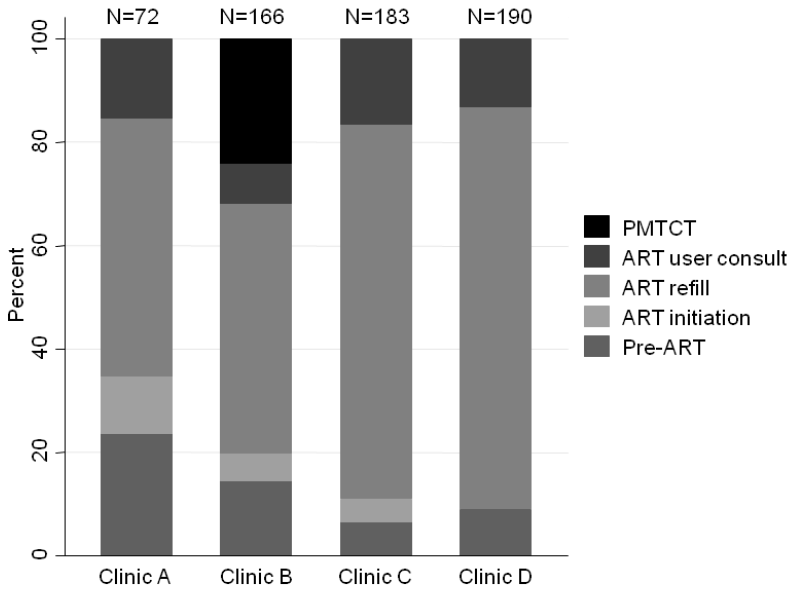
Variable	Clinic A	Clinic B	Clinic C	Clinic D	All clinics	P value
	% (N)	% (N)	% (N)	% (N)	% (N)	χ^2
Household monthly income						
E<500	19.4 (14)	28.9 (48)	50.3 (92)	29.0 (55)	34.2 (209)	<0.001
E500-999	18.1 (13)	33.1 (55)	27.3 (50)	21.1 (40)	25.9 (158)	
E1000-4999	36.1 (26)	36.8 (61)	20.8 (38)	36.8 (70)	31.9 (195)	
>=E5000	26.4 (19)	1.2 (2)	1.6 (3)	13.2 (25)	8.0 (49)	
Meat consumption						
Never	4.2 (3)	2.4 (4)	8.7 (16)	2.1 (4)	4.4 (27)	<0.001
Few times a month	19.4 (14)	24.1 (40)	33.9 (62)	12.6 (24)	22.9 (140)	
Few times a week	36.1 (26)	64.5 (107)	45.4 (83)	59.5 (113)	53.9 (329)	
Every day	40.3 (29)	9.0 (15)	12.0 (22)	25.8 (49)	18.8 (115)	
Water source						
River	16.7 (12)	6.0 (10)	21.3 (39)	15.3 (29)	14.7 (90)	<0.001
Well/borehole	5.6 (4)	9.6 (16)	8.7 (16)	4.7 (9)	7.4 (45)	
Public/neighbour's tap	9.7 (7)	18.1 (30)	22.4 (41)	16.3 (31)	17.8 (109)	
Buy/tanker	2.8 (2)	0.6 (1)	0.0 (0)	0.5 (1)	0.7 (4)	
Tap in compound	34.7 (25)	59.0 (98)	43.2 (79)	51.1 (97)	48.9 (299)	
Tap in house	29.2 (21)	6.6 (11)	4.4 (8)	12.1 (23)	10.3 (63)	
Employment status						
Unemployed	44.4 (32)	49.4 (82)	60.7 (111)	40.5 (77)	49.4 (302)	<0.001*
Employed FT	43.1 (31)	35.5 (59)	31.7 (58)	42.1 (80)	37.3 (228)	
Employed PT	9.7 (7)	15.1 (25)	7.1 (13)	15.8 (30)	12.3 (75)	
Student	2.8 (2)	0.0 (0)	0.6 (1)	1.6 (3)	1.0 (6)	
Total	**100.0 (72)**	**100.0 (166)**	**100.0 (183)**	**100.0 (190)**	**100.0 (611)**	

*χ^2 test on condensed/aggregated variable (employed/student vs unemployed) to increase cell numbers

5.3.2 HIV status

Table 5.5 displays indicators related to HIV illness. There were significant differences in type of service user ('client type') across clinic (see Figure 5.3), reflecting the different models of clinic and the services they provide. Overall, 12% of clients categorised themselves as 'pre-ART' (yet to start treatment, usually because they had not reached the appropriate CD4 threshold). The smallest proportion of pre-ART clients was in Clinic C, reflecting the non-availability of a pre-ART programme at that site, while the highest proportion was found in Clinic A (24%), which may also reflect the relatively recent availability of treatment there. Low proportions of clients were initiators (4%).[26] The great majority of clients were repeat clients returning for standard refills (65%) or for an ART user consultation (13%) (e.g. to discuss concerns with provider). The only clinic to report any PMTCT clients was Clinic B, where 25% of the sample fell into this group. As noted in the methods Chapter 4, there were problems with the classification of PMTCT clients at the other integrated site, Clinic A, where we also may have expected to see such clients.

Figure 5.3: Client type, by clinic (N=611)



[26] At the time of the survey, Clinic D had temporarily stopped accepting new clients.

Table 5.5: HIV treatment status (% (N)) or median(IQR))

Variable	Clinic A	Clinic B	Clinic C	Clinic D	All clinics	P value
	% (N)	% (N)	% (N)	% (N)	% (N)	χ^2
Client type						
Pre-ART	23.6 (17)	14.5 (24)	6.6 (12)	9.0 (17)	11.5 (70)	<0.001
ART initiation	11.1 (8)	5.4 (9)	4.4 (8)	0.0 (0)	4.1 (25)	
ART refill	50.0 (36)	48.2 (80)	72.7 (133)	77.9 (148)	65.0 (397)	
ART user consult	15.3 (11)	7.8 (13)	16.4 (30)	13.2 (25)	12.9 (79)	
PMTCT/Infant HIV	0.0 (0)	24.1 (40)	0.0 (0)	0.0 (0)	6.6 (40)	
Median CD4 count (IQR) (cells/µl)*	211 (100-298)	267 (180-448)	250 (146-402)	218 (128-313)	234 (143-378)	
Most recent CD4 count (cells/µl)						
<50	9.7 (7)	1.2 (2)	8.7 (16)	9.5 (18)	7.0 (43)	0.039*
51-200	34.7 (25)	29.5 (49)	29.5 (54)	34.7 (66)	31.8 (194)	
201-500	43.1 (31)	45.2 (75)	42.1 (77)	43.2 (82)	43.4 (265)	
>500	8.3 (6)	18.7 (31)	15.3 (28)	11.6 (22)	14.2 (87)	
CD4 unknown	4.2 (3)	5.4 (9)	4.4 (8)	1.1 (2)	3.6 (22)	
Time (mths) since last CD4 test (median, IQR)*	2 (1-3)	2 (1-4)	3 (1-5)	4 (2-7)	3 (1-5)	
TB treatment						
Receiving TB treatment	6.9 (5)	1.2 (2)	7.7 (14)	3.7 (7)	4.6 (28)	0.023
Not receiving TB treatment	93.1 (67)	98.8 (164)	92.4 (169)	96.3 (183)	95.4 (583)	
Time (mths) since HIV test (median, IQR)	8 (3-24.5)	14 (6-30)	30 (11-51)	19 (9-29)	20 (7-37)	
Time (mths) since HIV test (categorical)						
<6 months	40.3 (29)	22.9 (38)	16.9 (31)	13.7 (26)	20.3 (124)	<0.001
6-11 months	20.8 (15)	21.7 (36)	9.3 (17)	16.8 (32)	16.4 (100)	
1-2 years	13.9 (10)	23.5 (39)	14.8 (27)	33.7 (64)	22.9 (140)	
>2 years	25.0 (18)	31.9 (53)	59.0 (108)	35.8 (68)	40.4 (247)	
Time (mths) on ART (median, IQR)						
Time (mths) on ART (categorical)	2 (1-5)	6 (3-17)	16 (3-36)	11 (6-20)	8 (3-22)	
Not on ARVs	30.6 (22)	32.5 (54)	8.7 (16)	9.5 (18)	18.0 (110)	<0.001
1 day-3 months	47.2 (34)	20.5 (34)	23.0 (42)	13.7 (26)	22.3 (136)	
4-12 months	19.4 (14)	24.7 (41)	20.8 (38)	33.7 (64)	25.7 (157)	
>1 year	2.8 (2)	22.3 (37)	47.5 (87)	43.2 (82)	34.0 (208)	
Time (mths) enrolled at clinic (median, IQR)	4 (2-11)	7 (3-18)	14 (4-35)	11 (5-20)	9 (3-21)	
Time (mths) enrolled at clinic (categorical)						
<6 months	58.3 (42)	45.8 (76)	35.5 (65)	25.3 (48)	37.8 (231)	<0.001
6 months-2 years	26.4 (19)	43.4 (72)	28.4 (52)	66.3 (126)	44.0 (269)	
>2 years	15.3 (11)	10.8 (18)	36.1 (66)	8.4 (16)	18.2 (111)	
Total	**100.0 (72)**	**100.0 (166)**	**100.0 (183)**	**100.0 (190)**	**100.0 (611)**	
Clinic switching among those on ART :						
Initiated at same clinic	94.0 (47)	91.1 (102)	79.0 (132)	84.3 (145)	85.0 (426)	0.011
Switched clinics post ART initiation †	6.0 (3)	8.9 (10)	21.0 (35)	15.7 (27)	15.0 (75)	
Total on ART:	**100.0 (50)**	**100.0 (112)**	**100.0 (167)**	**100.0 (172)**	**100.0 (501)**	

* Excludes those with no CD4 count

† Those who initiated ART before clinic enrolment (> 1month, due to rounding up and/or reporting errors)

The most recent CD4 test result was also reported as a proxy for client health status. At the time of the survey, the threshold for ART initiation was 200 cells/µl, and nearly 40% of clients fell into the two lowest categories below this threshold. The largest group of clients had a CD4 count falling between 200 and 500 cells/µl (43%). The pattern was repeated across clinics, though Clinic B had a higher median CD4 count than others, perhaps reflecting the greater proportion of PMTCT clients at this site (ART initiation threshold at 350 cells/µl). Most clients had received a CD4 count within the past 6 months (median time of 3 months).

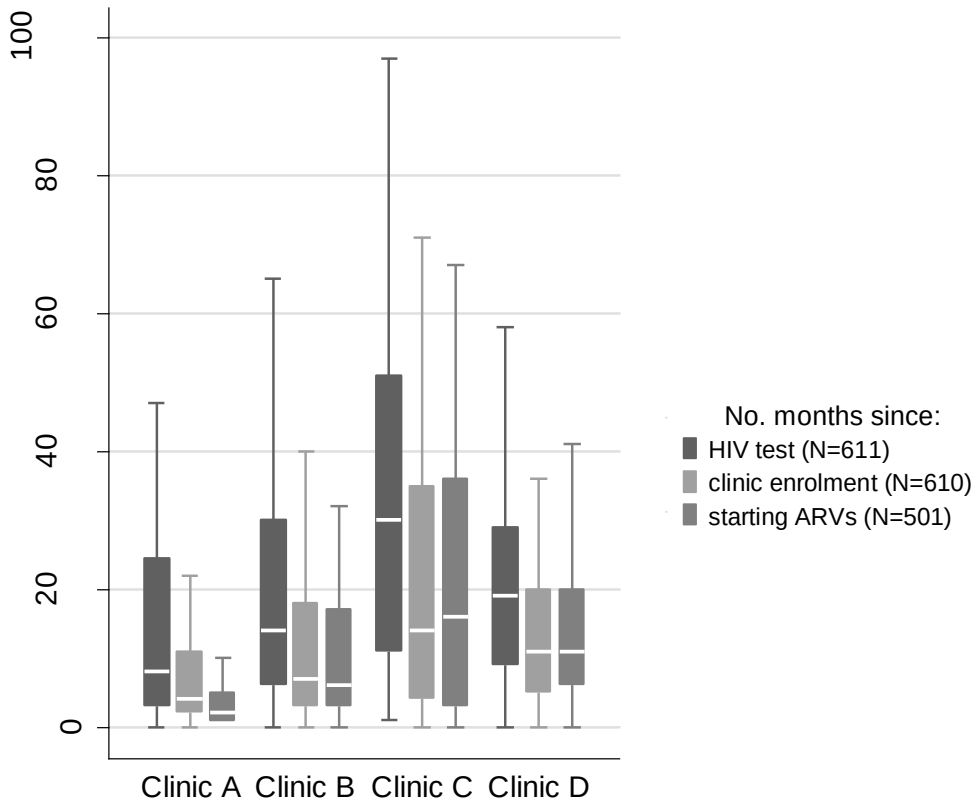
5.3.3 Clinic enrolment and switching

Table 5.5 also shows the average lengths of time elapsed since HIV testing, since enrolment at the clinic, and since initiation of ART. Figure 5.4 also charts these distributions in box plots, displaying the median, associated IQRs and extreme values (but excluding outliers). As can be seen, there are important variations across clinic in all three time variables, though, as would be expected, time since HIV testing is longest of all three indicators (median 20 months). Clinic C has the 'oldest' group of clients, with a median time since enrolment of 14 months, reflecting the longer time period that the site has operated as an ART clinic. Clinic A, conversely, has more recently enrolled clients (median time since enrolment of 4 months), again reflecting the relatively shorter duration that the site has operated as an ART provider (9 months at time of survey). These differences are very important to consider when examining the capacity of the clinics to address SRH needs, as will be discussed later.

It is possible to examine whether clients have 'switched' into their clinic from another ART site by looking at indicators of time on ART, and time since clinic enrolment. Table 5.5 shows data on those who initiated ART prior to clinic enrolment,[27] demonstrating that a total of 15% of the clients on ART had switched into their current clinic from elsewhere. This figure was highest in Clinic C (21%) and lowest in Clinic A where only 3 people (6%) had switched into the clinic. Again, this variable is important to bear in mind when examining clinic model effectiveness in meeting SRH needs.

[27] Only those who initiated ART over 1 month (≥ 2 months) before clinic enrolment were classified as switchers, because calculations of 'time-since' variables was subject to rounding up errors with the PDA software, and also subject to client self-reporting error on time estimates.

Figure 5.4: Box plots of time since HIV test, clinic enrolment & starting ARVs



5.3.4 Families

Table 5.6 displays the status of the survey population according to their family size, pregnancy status, and recent child deaths. Family size did vary to some degree by clinic, though similar patterns were seen everywhere, with the largest group of respondents reporting having one or two children (49%). The proportion reporting over 5 children was significantly higher in Clinic C (19%) than other sites (10%, 3% and 15% in Clinics A, B and D respectively).

Pregnancy status, presented by sex, did vary markedly by clinic in women, with much higher prevalence seen in the integrated clinics, with current pregnancy reported among 27% of Clinic A female respondents and 36% of Clinic B female respondents, versus 10% and 5% in women at Clinics C and D respectively. Most men did not report a partner pregnancy (99%) and there was no difference across site.

Data on death of *any* child, and death of *last* child were collected as important potential confounding variables in evaluation of study outcomes related to family planning. A large

proportion of the sample reported the death of a child (34%), and an important proportion also reported death of their last born child (14%). There was some evidence that death of any child varied across clinic (p=0.08), but not death of last child (p=0.189). Both rates were lowest in Clinic A, which may reflect the higher socio-economic status of clients at that clinic.

Table 5.6: Children and pregnancy

Variable	Clinic A	Clinic B	Clinic C	Clinic D	All clinics	P value
	(%) N	(%) N	(%) N	(%) N	(%) N	χ2
No. living children						
No children	13.9 (10)	17.5 (29)	12.6 (23)	13.7 (26)	14.4 (88)	<0.001
1-2 children	55.6 (40)	57.8 (96)	41.5 (76)	44.2 (84)	48.5 (296)	
3-4 children	20.8 (15)	21.7 (36)	26.8 (49)	27.4 (52)	24.9 (152)	
5 or more children	9.7 (7)	3.0 (5)	19.1 (35)	14.7 (28)	12.3 (75)	
Children who died						
None died	75.0 (54)	68.1 (113)	59.6 (109)	68.4 (130)	66.5 (406)	0.079
One or more died	25.0 (18)	31.9 (53)	40.4 (74)	31.6 (60)	33.6 (205)	
Death of last child						
No	91.7 (66)	81.3 (135)	86.3 (158)	86.3 (164)	85.6 (523)	0.189
Yes	8.3 (6)	18.7 (31)	13.7 (25)	13.7 (26)	14.4 (88)	
Total	**100.0 (72)**	**100.0 (166)**	**100.0 (183)**	**100.0 (190)**	**100.0 (611)**	
			MEN			
Current pregnancy						
No	100.0 (17)	100.0 (20)	100.0 (47)	95.6 (43)	98.5 (127)	0.285
Yes	0.0 (0)	0.0 (0)	0.0 (0)	4.4 (2)	1.6 (2)	
Total	**100.0 (17)**	**100.0 (20)**	**100.0 (47)**	**100.0 (45)**	**100.0 (129)**	
			WOMEN			
Current pregnancy						
No	72.7 (40)	63.7 (93)	90.4 (123)	95.2 (138)	81.7 (394)	<0.001
Yes	27.3 (15)	36.3 (53)	9.6 (13)	4.8 (7)	18.3 (88)	
Total	**100.0 (55)**	**100.0 (146)**	**100.0 (136)**	**100.0 (145)**	**100.0 (482)**	

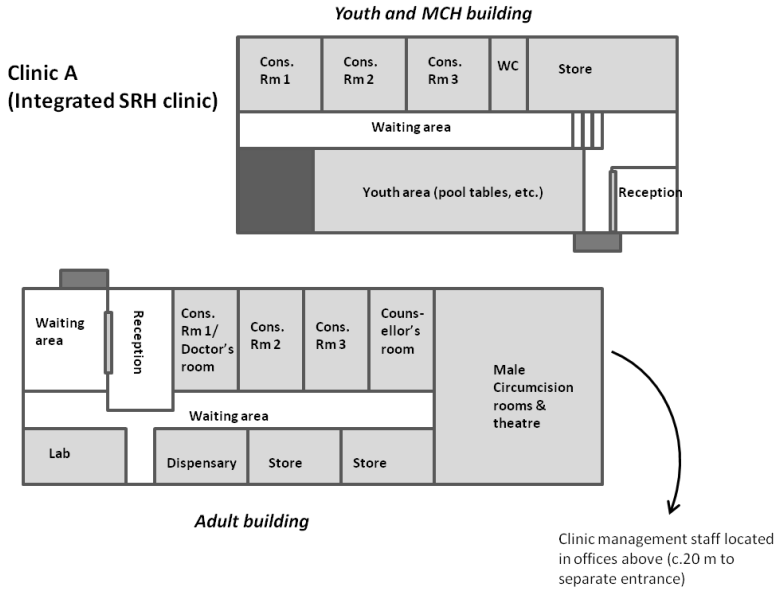
5.4 Clinic structure and integration

This section explores the structure and process of care as observed and recorded in the clinic, rather than what was initially reported to the research team. Each clinic is addressed in turn, with data derived from observations, survey data and qualitative sources.

5.4.1 Clinic A

The clinic was composed of two adjacent buildings, a youth 'clinic' and an adult 'clinic' (see Figure 5.5). Clients attending for ANC, PNC and child welfare (immunizations) visited the youth building, along with young people. HCTx services were only delivered in the adult clinic, irrespective of age or pregnancy status.

Figure 5.5: Clinic A layout



At the time of the study, although several nurses had been trained in ART, only one was assigned as the primary contact for HCTx clients (referring to him/herself as the "ART focal person"), and he/she worked closely with the doctor. The doctor had been hired specifically for ART provision but all providers were trained and equipped to deliver other SRH services and VCT, and all those interviewed called themselves "generalists". The 'ART nurse' usually occupied the room located next to the doctor in the adult clinic for easy cross-referrals. While ART refills were available with nurses throughout the week, the doctor only worked on Tuesday and Thursday afternoons, which meant that initiations and doctor-led consultations only took place at those times. Separate rooms were dedicated for the adherence counsellor, a lab for basic tests, and a dispensary, and these last two were used for all SRH and HIV services and drugs.

Clients attending for ART would usually visit the adherence counsellor first (if needed), followed by the nurse, then the doctor (if needed), and lastly the pharmacist. This resulted in a higher than average mean number of providers seen per visit (see Table 5.7) at 2.46 (SD 1.0). Provider contacts were divided relatively evenly across counsellors, doctor, nurses, and pharmacists, as

shown in the table. The mean number of sub-services accessed per visit was also surprisingly high at this site (see Table 5.8) (3.1, SD 1.5; compared to average of 2.7 services across all clinics), though most of these were for HIV-related care components, not SRH. Further, these sub-services were spread out across multiple providers, resulting in a mean number of services per provider contact of 1.3 (SD 0.4) (slightly higher than the average of 1.2). This is also reflected in Figure 5.11, where the service mix is distended across several provider contacts.

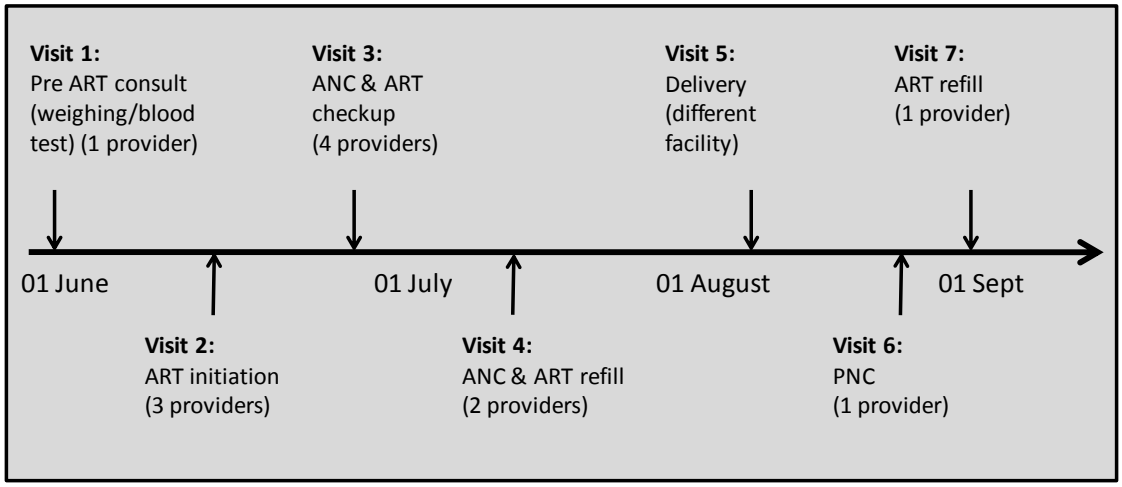
Due to the fragmentation of care across several provider contacts at this site, total waiting time was higher than average, with a median total wait time of 34 mins (IQR 11-95 mins) (see Table 5.9).[28] Median waiting time per provider was lower (15 mins). The clinic had the longest median consultation length, however, averaged at 9 minutes per provider (IQR 5.7-12.5 mins).

IDIs also suggested that ART operated as a specialist sub-unit within Clinic A. Both the doctor and the nurse had been specifically employed and trained to deliver ART and considered it their primary role. Other SRH nurses were "supposed" to attend to ART, but it was reported that they often internally referred HIV clients to the ART nurse or doctor. Even regular HIV clients sometimes had to return on different days to see the doctor and the nurse due to the doctor's sessional schedule.

The fragmentation of service provision was particularly prominent for pregnant and postpartum/child immunisation clients who were seen in a separate adjacent building, which was seen to result in "a lack of integration within us". The clinic had appointment systems, and while some clients were able to negotiate attendance on the same day for MCH and HIV services (the clinic was reportedly 'usually flexible'), others had to see the different nurses at different times. Since many women at the clinic tested in pregnancy, many entered a system of care in the last months of pregnancy and postpartum which involved multiple visits to the clinic, as shown in the service trajectory example in Figure 5.6.

[28] Since waiting times and consultation lengths are client-reported measures, there is expected clustering around certain time points (5, 10, 15, 30 mins), implying a lower precision in the data.

Figure 5.6: Service use trajectory, pregnant client, Clinic A [0404]



Despite these observations, staff at Clinic A maintained that it was a fully integrated clinic. Within HIV consultations, providers reported routinely offering SRH services to clients, including family planning counselling and method provision, dual protection counselling, counselling on pregnancy and pap smears. In contrast to other clinics, the provision of hormonal and other long-term contraceptive methods could be done within the same consultation, and family planning discussed at every visit. The extent to which the delivery of SRH happened is discussed in subsequent chapters.

5.4.2 Clinic B

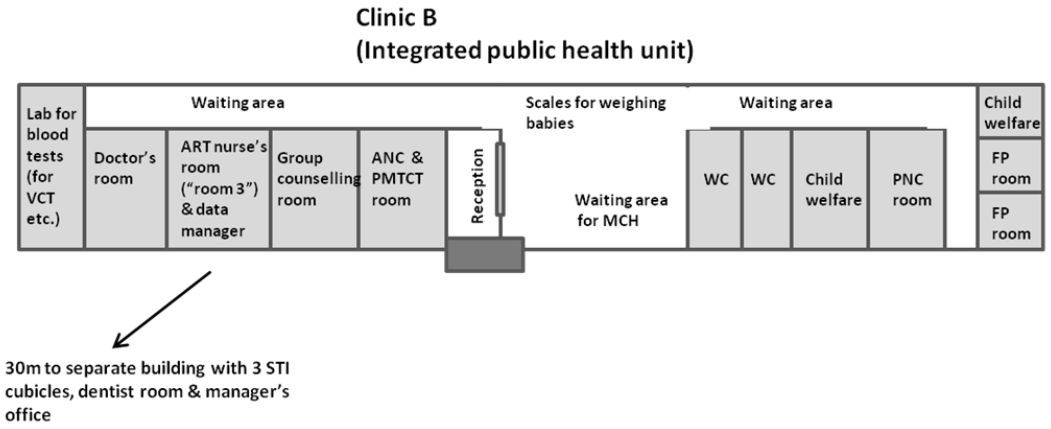
As suggested previously, Clinic B was observed to be 'partially' integrated at the facility level, with different rooms and providers allocated for different SRH and HIV services. This clinic also consisted of two buildings, but set further apart (see Figure 5.7). Each room was labelled with a specific service, except the two ART rooms (for confidentiality reasons labelled "Room 3", and "Doctor"). Drugs were prescribed and dispensed in the nurse's room (Room 3). Family planning and pap smears were provided at other end of the main building, or the other building for STI services (c.30m away).

While nurses were trained in many SRH services, they would only deliver the service for their room (also due to the presence of equipment and data register for that room).[29] HIV care was

[29] At the time of the study, an intervention was ongoing in the PNC unit (part of Integra) to deliver more integrated PNC care; however, this did not affect operations in other parts of the clinic.

differentiated by weekday, with initiations usually on Thursdays and Fridays,[30] and routine refills on Monday-Wednesday. Unlike Clinic A, the doctor was full-time. Clients here were much more likely to see the doctor than elsewhere (28% vs an average of 17%) (see Table 5.7).

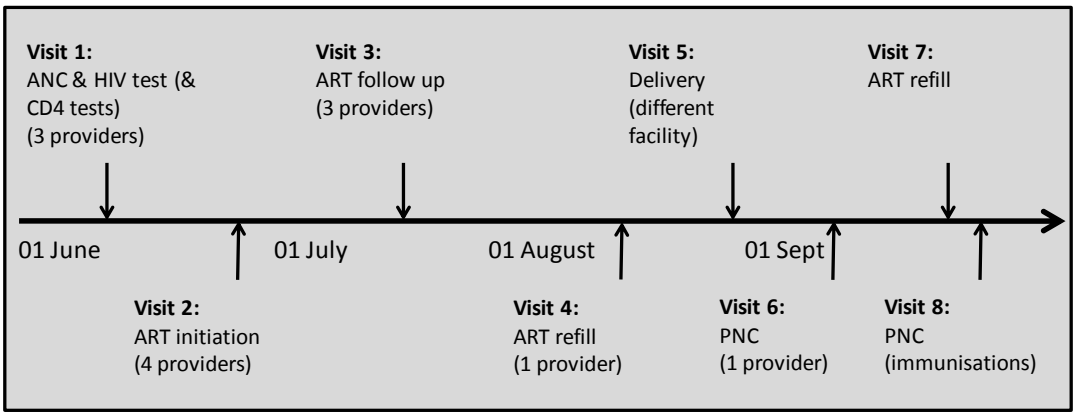
Figure 5.7: Clinic B layout



As with Clinic A, the primary care focus of the clinic meant that many women entered ART through the MCH system. Since the clinic was only partially integrated, this again meant that pregnant women suffered disproportionately from the need to make multiple visits, as shown with the example in Figure 5.8.

Despite the system of partial integration, however, the mean number of providers seen was lowest at this site (1.8, SD 0.8) (see Table 5.7) and the number of sub-services accessed per provider contact was highest (1.4, SD 0.6) (the former significantly different to Clinic A ($p<0.001$), the latter not ($p>0.05$)). This may have resulted in an above average consultation length (7.5 mins, see Table 5.9).

Figure 5.8: Service use trajectory, pregnant client, Clinic B [0105]



[30] Doctor could also initiate patients who were unwell on other days.

Table 5.7: Provider contacts accessed (on day of survey) (from exit survey)

Variable	Clinic A	Clinic B	Clinic C	Clinic D	All clinics	P value
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	F stat (p value)
No. providers seen during visit	2.46 (1.0)	1.8 (0.8)	2.8 (0.9)	2.2 (0.4)	2.3 (0.8)	58.22 (<0.001)
	% (N)	**% (N)**	**% (N)**	**% (N)**	**% (N)**	**χ2**
No. providers seen during visit (group)						
1 provider	13.9 (10)	43.4 (72)	6.6 (12)	1.6 (3)	15.9 (97)	<0.001
2 providers	41.7 (30)	37.4 (62)	23.5 (43)	78.4 (149)	46.5 (284)	
3 providers	27.8 (20)	16.9 (28)	55.2 (101)	20.0 (38)	30.6 (187)	
4 providers	13.9 (10)	1.8 (3)	8.7 (16)	0.0 (0)	4.8 (29)	
≥ 5 providers	1.4 (1)	0.0 (0)	4.4 (8)	0.0 (0)	1.5 (9)	
Missing	*1.4 (1)*	*0.6 (1)*	*1.6 (3)*	*0.0 (0)*	*0.8 (5)*	
Total	**100.0 (72)**	**100.0 (166)**	**100.0 (183)**	**100.0 (190)**	**100.0 (611)**	
Type of providers seen (all contacts)						
Counsellor	18.2 (31)	10.7 (22)	23.8 (90)	0.5 (2)	12.7 (145)	<0.001
Doctor	16.5 (28)	28.2 (58)	9.0 (34)	19.4 (75)	17.1 (195)	
Nurse	34.7 (59)	57.8 (119)	27.2 (103)	30.2 (117)	34.9 (398)	
Pharmacist	22.4 (38)	0.5 (1)	36.2 (137)	48.1 (186)	31.7 (362)	
Phlebotomist	7.7 (13)	2.4 (5)	3.4 (13)	1.8 (7)	3.3 (38)	
Other	0.6 (1)	0.5 (1)	0.5 (2)	0.0 (0)	0.4 (4)	
Total no. provider contacts	**100.0 (170)**	**100.0 (206)**	**100.0 (379)**	**100.0 (387)**	**100.0 (1142)**	

Table 5.8: Service mix accessed, by clinic (from exit survey)

Variable	Clinic A	Clinic B	Clinic C	Clinic D	All clinics	P value
	% (N)	**% (N)**	**% (N)**	**% (N)**	**% (N)**	
General HIV consult	26.4 (56)	10.9 (41)	6.0 (33)	8.2 (42)	10.4 (172)	
Weighing/BP check	16.5 (35)	13.1 (49)	29.1 (161)	15.9 (82)	19.7 (327)	
Exams/tests	8.5 (18)	11.5 (43)	5.2 (29)	5.6 (29)	7.2 (119)	
ART refill	9.4 (20)	10.1 (38)	25.1 (139)	30.1 (155)	21.3 (352)	
ART initiation	5.7 (12)	1.1 (4)	0.9 (5)	0.4 (2)	1.4 (23)	
Pre ART consult	6.1 (13)	4.8 (18)	2.0 (11)	3.3 (17)	3.6 (59)	
Condom provision	0.9 (2)	0.3 (1)	0.0 (0)	0.0 (0)	0.2 (3)	
Drug provision	19.8 (42)	31.2 (117)	27.8 (154)	36.5 (188)	30.3 (501)	
FP	0.9 (2)	0.3 (1)	0.0 (0)	0.0 (0)	0.2 (3)	
ANC/PNC/infant	1.9 (4)	10.7 (40)	0.0 (0)	0.0 (0)	2.7 (44)	
Pap smear	0.9 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)	
PMTCT	1.4 (3)	3.2 (12)	0.0 (0)	0.0 (0)	0.9 (15)	
STI	0.9 (2)	1.1 (4)	0.0 (0)	0.0 (0)	0.4 (6)	
Group counselling	0.5 (1)	1.9 (7)	4.0 (22)	0.0 (0)	1.8 (30)	
Total no. svcs	**100.0 (212)**	**100.0 (375)**	**100.0 (554)**	**100.0 (515)**	**100.0 (1656)**	
	Mean (SD)	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**F stat (p value)**
Mean no. sub-services accessed	3.1 (1.5)	2.3 (1.1)	3 (1.0)	2.7 (0.9)	2.7 (1.1)	17.39 (<0.001)
Mean no. sub-serivces per provider contact	1.3 (0.4)	1.4 (0.6)	1.1 (0.3)	1.2 (0.3)	1.2 (0.4)	10.42 (<0.001)

Table 5.9: Waiting times and consultation length, by clinic (from exit survey)

Variable	Clinic A	Clinic B	Clinic C	Clinic D	All clinics	F stat (p value)
Total waiting time (for all providers seen) (median, IQR)	38.5 (11 - 95)	45.0 (22 - 70)	50.0 (25 - 85)	17.0 (7 - 34)	34.0 (15 - 70)	38.14 (<0.001)*
Average waiting time (median, IQR):						
1st provider	10.0 (5 - 53)	30.0 (15 - 60)	15.0 (10 - 45)	10.0 (3 - 30)	15.0 (5 - 55)	
2nd provider	6.0 (0 - 30)	10.0 (4 - 25)	15.0 (5 - 35)	3.0 (2 - 5)	5.0 (2 - 20)	
3rd provider	10.0 (2 - 25)	5.0 (3 - 15)	5.0 (2 - 10)	4.0 (2 - 5)	5.0 (2 - 10)	
4th provider	5.0 (0 - 8)	0.0 (0 - 1)	4.5 (2 - 18)	. . .	4.5 (0 - 15)	
5th provider	30.0 (30 - 30)	. . .	10.0 (3 - 20)	. . .	10.0 (5 - 25)	
Average waiting time per provider (median, IQR)	15.0 (6.3 - 32.5)	30.0 (11.3 - 54.0)	18.2 (10.0 - 31.7)	8.3 (3.0 - 15.5)	15.0 (6.5 - 31.5)	<0.001*
Average total consultation time (for all providers seen) (median, IQR)	20.0 (11.5 - 31.5)	10.0 (7.0 - 20.0)	12.0 (9.0 - 19.0)	12.0 (7.0 - 16.0)	12.0 (8.0 - 20.0)	12.22 (<0.001)*
Average consultation time (median, IQR):						
1st provider	10.0 (5 - 15)	5.0 (5 - 10)	3.0 (2 - 5)	7.0 (5 - 10)	5.0 (4 - 10)	
2nd provider	10.0 (5 - 15)	5.0 (5 - 10)	5.0 (3 - 10)	4.0 (2 - 5)	5.0 (3 - 10)	
3rd provider	4.0 (3 - 10)	5.0 (5 - 10)	3.0 (2 - 5)	3.0 (2 - 5)	3.0 (2 - 5)	
4th provider	3.0 (2 - 10)	5.0 (3 - 30)	5.0 (3 - 10)	. . .	5.0 (3 - 10)	
5th provider	5.0 (5 - 5)	. . .	3.0 (3 - 5)	. . .	3.0 (3 - 5)	
Average consultation time per provider (median, IQR)	9.0 (5.7 - 12.5)	7.5 (5.0 - 10.5)	4.5 (3.3 - 8.5)	5.0 (3.5 - 7.5)	5.7 (4.0 - 10.0)	40.91 (<0.001)*
Total no. clients	**72**	**165**	**181**	**190**	**608**	

*Analysis of variance (ANOVA) on log transformed median value due to skewed data

This concentration of service components in one provider is reflected clearly in Figure 5.11. Again, most of these services were sub-components of HIV care (see Table 5.8) rather than SRH, and likely reflect the system of nurse-dispensing in the ART room. Nonetheless, Clinic B was the only site to have a notable number of SRH services provided, with 7% receiving an MCH service (ANC/PNC/infant HIV testing) and 1% receiving PMTCT. This reflects the greater proportion of PMTCT clients interviewed at this site. Even here though, very few contacts were for family planning, STI or pap smear. In fact, out of the 1656 sub-services accessed altogether across the 4 sites, only 3 were for family planning, 2 for pap smear and 6 for STI services.

Despite the relative concentration of care provided with one provider, the median total waiting time (45 mins, IQR 22-70 mins) was still well above average, and the clinic had the longest waiting time per provider (30 mins) (see Table 5.9).

Furthermore, while SRH services were provided in separate rooms, the ART providers reported promoting and distributing condoms in the HIV consultation, in addition to giving counselling on family planning and the safe timing of pregnancy. This suggests the clinic is more similar to the model of care at Clinic A than anticipated. There were conflicting accounts of whether the ART nurses also conducted pap smears, saw MCH clients, and treated STIs, but client reports suggests this was probably not generally the case. It was also reported that the ART nurse could call the SRH nurse into their room to help provide long-term contraceptives if the client was not comfortable attending the family planning unit (although this did not include IUDs, which could only be inserted in the family planning unit). There was a preference to try and resolve all the problems in the one room:

> *I usually don't like referring them to other departments, even if she has a baby, I try to solve all the problems here, except when it needs the doctor or a facility outside [Provider, Clinic B, 0102]*

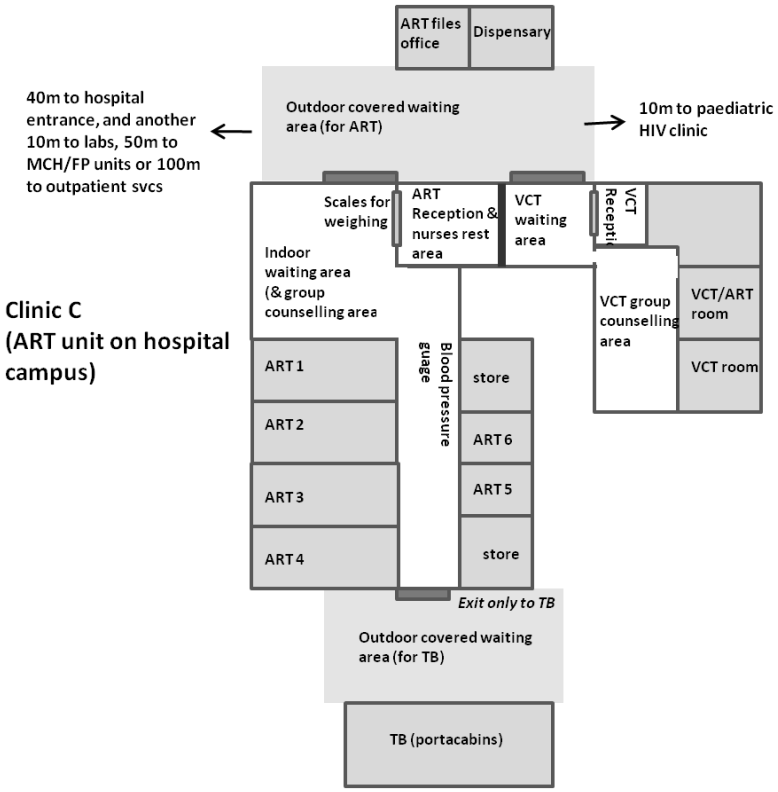
There was also a consensus that the doctor could attend to a wide range of health needs since he had both the capacity and equipment (namely a bed) that the nurses didn't have.

5.4.3 Clinic C

The clinic was located about 40m from the main hospital entrance and was clearly labelled as an 'ART clinic'. It was comprised of one main building and a portacabin for dispensing (see Figure 5.9). It was situated adjacent to the VCT unit, and provision of care sometimes overflowed into their counselling rooms. During the study, a new TB unit was also built in portacabins behind the clinic, to allow easy referral for TB testing and treatment. A new paediatric HIV clinic was also completed in late 2009 next door, though this was designated only for children, not mothers.

Client flow within ART was particularly fragmented: clients would first attend a patient education session in the indoor waiting area, then queue at the reception desk to be weighed, then get a brief check (with blood pressure measurement) in the corridor or a consultation room with a nurse, then if needed see a doctor, and then finally get their drugs from an adjacent portacabin. The very high client load resulted in very short consultation lengths, with a median of 4.5 mins per provider (IQR 3.3-8.5). HIV care was also fragmented by weekday, with initiations usually on Mondays, Tuesdays and Thursdays, and refills on Wednesdays and Fridays. Given the large number of providers seen, median total waiting time was very long here (50 mins, IQR 25-85).

Figure 5.9: Clinic C layout



The distension of HIV care is reflected clearly in Figure 5.11, and the low mean number of sub-services accessed per provider (1.1). The range of services received was also more limited here, with almost all clients receiving BP/weight, ART refill or drugs provision, but spread across at least 3 providers (see Table 5.8).

This clinic also had a much greater proportion of clients referred than other sites in the survey (see Table 5.10). Clients were sent to the main hospital building for any lab tests, or for further SRH care. Overall, 14% of those interviewed in the survey were referred (either internally to another building or externally), mostly to the lab (15; 60%) or the pharmacy (9; 36%). Only one person was referred for an SRH service (STI) and none for family planning. Eight out of 47 referrals in total were for SRH services (five for STI, two for PNC and one for family planning). Among those traced (n=16), six (38%) did not attend their referral appointment.

The availability of other services at the hospital adds ambiguity to the model as a 'stand-alone' site. Some providers clearly felt that their model constituted integrated care:

> *I think it's … it's really integrated in that we use the same lab, we use the same radiologists, we consult specialists on the other side, they consult us, you know, the TB unit has moved closer, you know. In that sense, it is integrated. [Provider, Clinic C, 0302]*

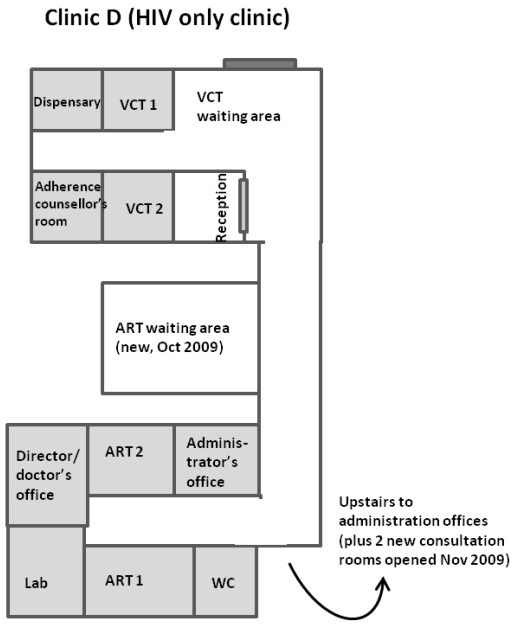
Furthermore, both providers and clients reported the provision of pregnancy counselling, condom counselling and condom provision within ART itself. A condocan (condom dispenser) was observed in the reception.

5.4.4 Clinic D

The clinic operated within one building, with one half focused more on VCT, with a waiting area next to the entrance, and the second part down a corridor focused on ART. A separate waiting area was constructed during the study for ART patients, for confidentiality and space purposes. Clients usually saw the nurse or doctor in the ART area, and then visited the dispensary to collect drugs. All services were available every day, except blood tests (unavailable Thursday and Friday).

Most clients (78%) at this site saw two providers , and none saw more than three (see Table 5.7). This resulted in a short total waiting time (17 mins, IQR 7-34 mins). The service access profile is similar to Clinic B, suggesting less fragmentation of HIV care (see Figure 5.11). The numbers of providers seen, services accessed per provider, and consultation lengths were similar to average across clinics.

Figure 5.10: Clinic D layout



Given that this is a stand-alone clinic, the low number of out-referrals from this clinic was notable (see Table 5.10); among 190 clients, only three were referred elsewhere, one for STI and two to a lab. Nonetheless, providers reported routinely referring clients for various reasons,

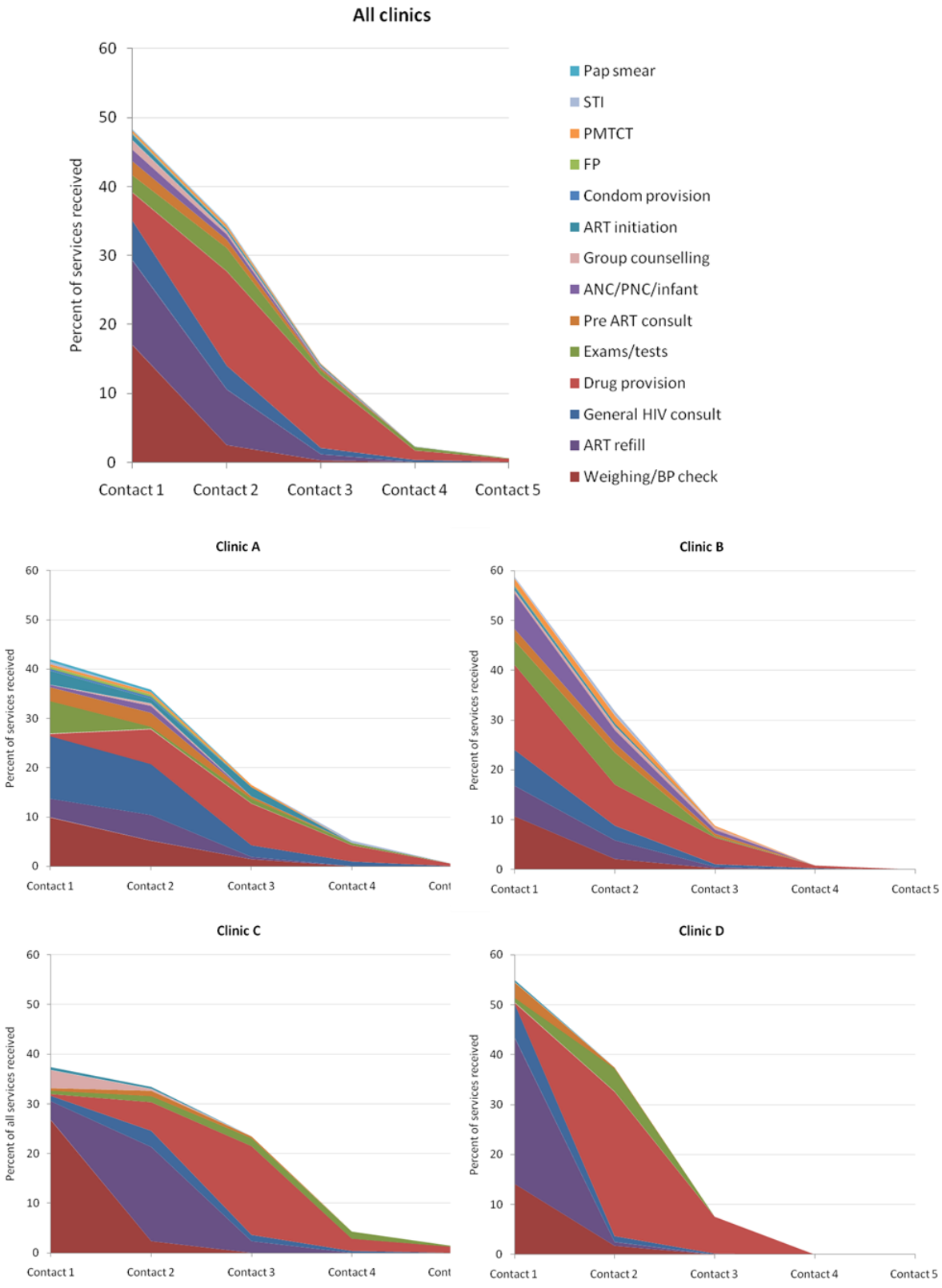
most often for TB or other opportunistic infection (OI) services, but also to clinics A and B for SRH services (particularly MCH and FP).

Although an HIV-only clinic, both providers and clients reported the availability of basic SRH services, including STI diagnosis and treatment, condom counselling and provision, family planning and pregnancy counselling. Observations showed that condoms were easily accessible in both the reception and consultation rooms.

Table 5.10: Referrals, by clinic (from exit survey)

Variable	Clinic A	Clinic B	Clinic C	Clinic D	All clinics	P value
	% (N)	% (N)	% (N)	% (N)	% (N)	χ^2
Clients referred outside building						
No	91.5 (65)	93.9 (155)	86.0 (154)	98.9 (188)	92.9 (562)	<0.001
Yes	8.5 (6)	6.1 (10)	14.0 (25)	1.1 (2)	7.1 (43)	
Total (all clients):	**100.0 (71)**	**100.0 (165)**	**100.0 (179)**	**100.0 (190)**	**100.0 (605)**	
Among those referred, service referred for:						
Lab	55.6 (5)	20.0 (2)	60.0 (15)	66.7 (2)	51.1 (24)	
Pharmacy	11.1 (1)	30.0 (3)	36.0 (9)	0.0 (0)	27.7 (13)	
STI	11.1 (1)	20.0 (2)	4.0 (1)	33.3 (1)	10.6 (5)	
PNC	0.0 (0)	20.0 (2)	0.0 (0)	0.0 (0)	4.3 (2)	
Cardiology	11.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	2.1 (1)	
FP	11.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	2.1 (1)	
Missing	*0.0 (0)*	*10.0 (1)*	*0.0 (0)*	*0.0 (0)*	*2.1 (1)*	
Total referred (N=42 cases, 47 referral services):	**100.0 (9)**	**100.0 (10)**	**100.0 (25)**	**100.0 (3)**	**100.0 (47)**	
Among those followed up, referral facility attended:						
Not attended	0.0 (0)	50.0 (3)	37.5 (6)	0.0 (0)	32.1 (9)	
Another building in facility	25.0 (1)	33.3 (2)	50.0 (8)	50.0 (1)	42.9 (12)	
Other clinic in Manzini	50.0 (2)	0.0 (0)	6.3 (1)	50.0 (1)	14.3 (4)	
Hospital outside Manzini	0.0 (0)	16.7 (1)	6.3 (1)	0.0 (0)	7.1 (2)	
Missing	25.0 *(1)*	0.0 *(0)*	0.0 *(0)*	0.0 *(0)*	3.6 *(1)*	
Total followed up:	**100.0 (4)**	**100.0 (6)**	**100.0 (16)**	**100.0 (2)**	**100.0 (28)**	

Figure 5.11: Service accessed, by provider contact, by clinic (from exit survey)

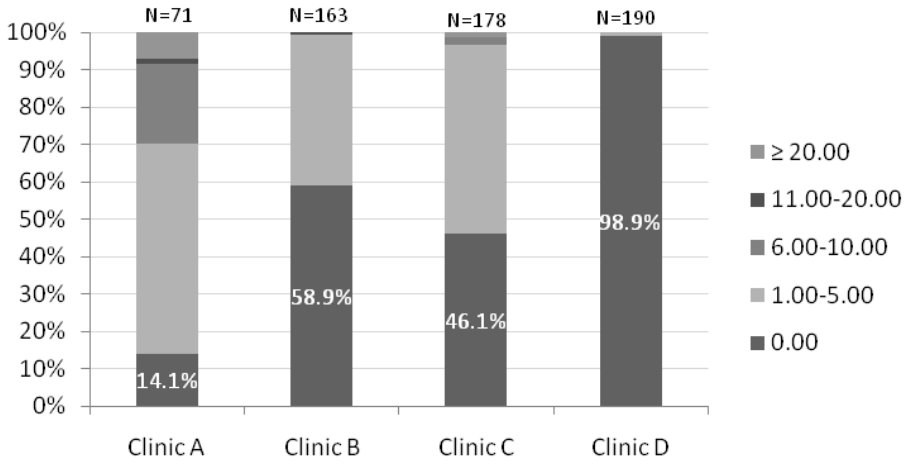


(N=602 clients with 1142 service contacts)

5.5 Costs of services

The exit survey also captured data on costs of services paid that day. Data on total fees paid during the visit (day of survey) are displayed in Figure 5.12. The greatest proportion receiving free care was at Clinic D (99%), but clients at other sites incurred small charges, mostly under E5.00.[31] Clinic A had the lowest proportion of free care (14%) with the other two clinics (both public sector) having around half of clients reporting free care.

Figure 5.12: Costs of care on day of survey in Swazi Emalengeni



5.6 Summary & discussion

The aim of this chapter was to give an overview of the four study sites, their populations and degree of integration. Having an understanding of the clinics is important for interpreting results in subsequent chapters of this thesis. The main points from this chapter are now summarised.

As four public or publicly subsidized HCTx clinics operating in one town, the sites make an interesting comparative case study on models of HIV care in this high prevalence context. The fact that the process of HIV care was relatively standard across all sites facilitates a cross-case comparison. SRH is clearly on the agenda of the MoH, since all clients received adherence counselling that included family planning, positive prevention, condom use, and STIs.

[31] E.1.00 at the time of the survey equated to about £0.08.

However, the clinics are managed in different ways, have different client loads, differing fee policies, traditionally cater to different types of clients, and may as a consequence offer different standards of care.[32] The two integrated sites certainly had a focus on SRH and MCH, reflected in the high proportions of pregnant women in the survey sample at these sites. When considering SRH indicators in subsequent chapters, this is important to bear in mind.

The expected model 'types' are not as uncontaminated as had been expected or desired for the purposes of this comparative case study. Firstly, the stand-alone clinics (C and D) were reportedly able to offer basic SRH services, including counselling services as well as condom provision, within their HIV consultations. Secondly, all clinics demonstrated a degree of fragmentation within HIV care itself, with clinic visits across all sites differentiated among counsellors, nurses, doctors, and pharmacists or lab technicians. Such fragmentation may be a necessary aspect of complex HIV care, and an important strategy to improve the efficiency of service delivery, but does call into question the meaning of 'integration'. While not widely studied, this kind of fragmentation has been documented in a study of service models in HCTx in South Africa (Schneider et al., 2008). The stand-alone model, Clinic D, seemed to suffer less from this fragmentation than the most integrated site, Clinic A, and seemed to be more efficient (measured by waiting times) as a consequence. Other studies in the region also suggest integrated care is associated with longer weighting times (Topp et al., 2010). Greater fragmentation was also not necessarily associated with a greater spectrum of service delivery: the fact that very few of the service components accessed on the day of the survey were related to SRH, even at integrated sites, suggests that either SRH services were not desired, or that the providers were unable to deliver them; this association between clinic model and SRH service access and use will be explored further in Chapter 7. Thirdly, SRH and HIV services were more separated than expected at the most integrated site, Clinic A. The designation of an 'HIV nurse', the attendance of a doctor only twice a week for ART clients, and the physical separation of MCH services from other SRH and HIV services constitute a model more akin to the partial integration model of Clinic B.

Nevertheless, there were also clear differences between the sites. At Clinic A, HIV providers claimed that they do provide contraception and other SRH services in their rooms, and so this thesis will continue to refer to the clinic model as 'provider-level integration'. Further, since the

[32] Unfortunately it was not possible to gather data on adherence from the MoH, though this may not have been a useful indicator of quality anyway, due to the differing time lengths that ART had been available across the sites.

focus of this thesis is on family planning service use and access, the fact that contraception (aside from condoms) was not available within Clinics C and D, justifies their continued designation as 'stand-alone' models (albeit different to each other). Thus the inclusion of an independent variable to denote the determinant 'model' factor in multivariable analyses in Chapter 7 is justified.

The clinics also demonstrated differences in client populations that must be taken into account when comparing integration outcomes between the sites. While most clients were economically vulnerable, Clinic A had wealthier and more educated clients than others, and Clinic C had the lowest SES group. Economic vulnerability also seemed to run in parallel with social vulnerability within relationships, demonstrated by a high prevalence of informal unions (highlighted in other reports as a structural and epidemiological determinant of HIV (PHR, 2007)) and lack of knowledge of partner status among women.

A low proportion of males, and a majority of clients aged 30 to 40, also reflects national trends in later HIV acquisition and delayed testing and treatment initiation among males in Swaziland. The low number of young clients should be a particular concern at Clinic A, given the clinic's supposed focus on youth. In general, clients were relatively new to HIV care, having mostly initiated ART within the past half year. This may reflect national strategies to scale-up access to HIV testing and treatment over preceding years, but potentially also reflects problems with adherence and drop-out at longer-running sites (i.e. Clinic C). Nevertheless, the higher proportions of newer clients and low number of switchers is useful for subsequent analyses, since high degrees of switching would make it hard to interpret data on uptake of SRH services.

Summary of main findings (Chapter 5):

- The clinics have differing characteristics and capacities, including management, client flow, fee policies; consequently, quality of care is differential, irrespective of integration model. Clinics also had different populations which need to be taken to account when comparing outcomes between sites, in particular differing SRH situations and needs. Despite theoretically all offering free ART, clients at the fully stand-alone site (run by an NGO) were the only ones to pay no additional charges; clients had to pay most at integrated Clinic A (also run by an NGO).
- All clinics offered a minimum package of SRH during ART adherence counselling, and ongoing condom promotion. Contraceptive methods were only provided, though, at integrated sites; and therefore these sites will continue to be referred to as integrated SRH-HIV.
- Designated model 'types' were more blurred in reality. HIV care was fragmented across different providers, usually for sub-components of HCTx itself, across all sites. While provider contacts were lowest at integrated Clinic B, those at the most "integrated site", Clinic A, were functionally separated, exacerbated by the designation of the 'ART nurse', and sessional attendance of the doctor. Services at that site were also separated into different (adjacent) buildings.
- According to exit survey results, very few clients are regularly accessed SRH, irrespective of model. Very few clients were referred SRH services over the 3 weeks of data collection, suggesting that referral may not compensate for lack of on-site service availability.

6. Family planning practices and needs among PLWH attending HCTx services

Introduction

This chapter presents findings on contraceptive practices and needs for family planning among PLWH at the four study sites. The focus here is on family planning (including condom use), rather than other aspects of SRH among PLWH, due to the important role family planning can play in PMTCT, as well as the role of condom use in prevention onward transmission of the virus ("positive prevention"). The chapter includes data on sexual partnerships and behaviour, contraceptive use patterns (including condom use and dual method use), fertility intentions, and pregnancy intendedness. These data also all contribute to the construction of a measure of unmet need for family planning services.

Documenting the current family planning practices and needs of the study population is important for contributing to the aims of this thesis, since judgements about a service response (i.e. effectiveness of integration) can only be made with a thorough understanding of clients' situation and needs. As Chapter 2 has described, other studies demonstrate that PLWH's sexual behaviours, fertility intentions and contraceptive practices vary by setting within sub-Saharan Africa, and are changeable across a continuum from testing HIV positive, through ART initiation and onto ART stabilisation. However, most studies report fertility intentions and contraceptive practices separately. Unmet need for family planning is a composite demographic indicator measuring the number of women not using contraception who want to cease or postpone childbearing by at least 2 years, while also taking into account the intendedness of pregnancy in women who are currently pregnant (Westoff, 2006). It therefore also importantly takes client demand into account. Existing studies among PLWH that include a measure of unmet need for family planning have either done so only at the population level (Anand et al., 2009); or have deviated from standard demographic practice when using the variable; for example by automatically categorizing women relying on condoms as having an unmet need (Homsy et al., 2009). This last study by Homsy et al. is particularly problematic, since it has led to erroneous reporting on a level of unmet need for family planning among PLWH in three different international journals (Wilcher et al., 2008; Wilcher et al., 2009; Wilcher & Cates, 2010) (albeit

by the same author). The description of unmet need presented in this chapter will also be investigated further in Chapter 7, through a multivariable analysis.

The chapter is divided into two main sections: the first part presents quantitative data aiming to assess current fertility intentions, contraceptive practices and the extent of unmet needs for family planning, as well as to compare levels of unmet need with national DHS estimates. The second part uses qualitative data derived from both client and provider interviews. The aims of this section are to help understand these patterns by exploring the factors influencing family planning use (including condom use) among PLWH, and the role of health services, across different models of care, in supporting clients' achieve their SRH goals.

6.1 Methods & measures

The chapter describes contraceptive practices (including condom use), fertility intentions and pregnancy intendedness. The association between these variables and clinic model is reported using χ^2 or analysis of variance. Many of the measures in this chapter were adapted either from the SDHS questionnaire, or from instruments used in other components of the Integra project, in order to ensure their validity and reliability. Two measures (consistency of condom use and unmet need for family planning) were developed specifically for this study, and are now discussed in more detail.

Condom use consistency

While the standardised measure of condom use at last sex has been suggested as a reasonable proxy for comparing consistent use across populations (Cleland et al., 2004), the qualitative data suggested that HIV positive clients at these clinics are reluctant to admit failure to use condoms, because all had been strongly counselled by providers to do so. Reporting bias on this measure may therefore be particularly strong in this population. Other studies have also demonstrated that condom use at last sex does not always accurately characterize an individual's overall level of condom use (Schroder et al., 2003). To address this problem, a measure on consistency of condom use was specifically designed for this survey. Experience from the qualitative study suggested that clients responded to empathy in discussions on condom use consistency. Others have also found that leading questions can be appropriate and productive in research on undesirable behaviours (Bowling, 2005). To supplement the standard question on 'condom use at last sex', all clients were also asked to choose which of the statements in Table 6.1 best described their situation. The second response "I would like to use a condom all the time, but sometimes I don't" was designed as an empathetic statement, which

could capture inconsistent condom use more accurately than other current measures. Respondents were then categorized as consistent or inconsistent users, using both this measure and 'condom use at last sex'. The question was properly pilot-tested to ensure comprehension and collect participant and interviewer feedback on the measure. Both these questions on condom use and consistency were asked in a separate section of the questionnaire to questions on contraceptive use.

Table 6.1: Condom use consistency measures

Questionnaire statement	Condom user category
I use a condom every time I have sex	Consistent user
I would like to use a condom all the time, but sometimes I don't	Inconsistent user
I use a condom every now and then	Inconsistent user
I never use condoms	Never uses
I'm not having sex at all these days	Not having sex
Refused to answer	Refused

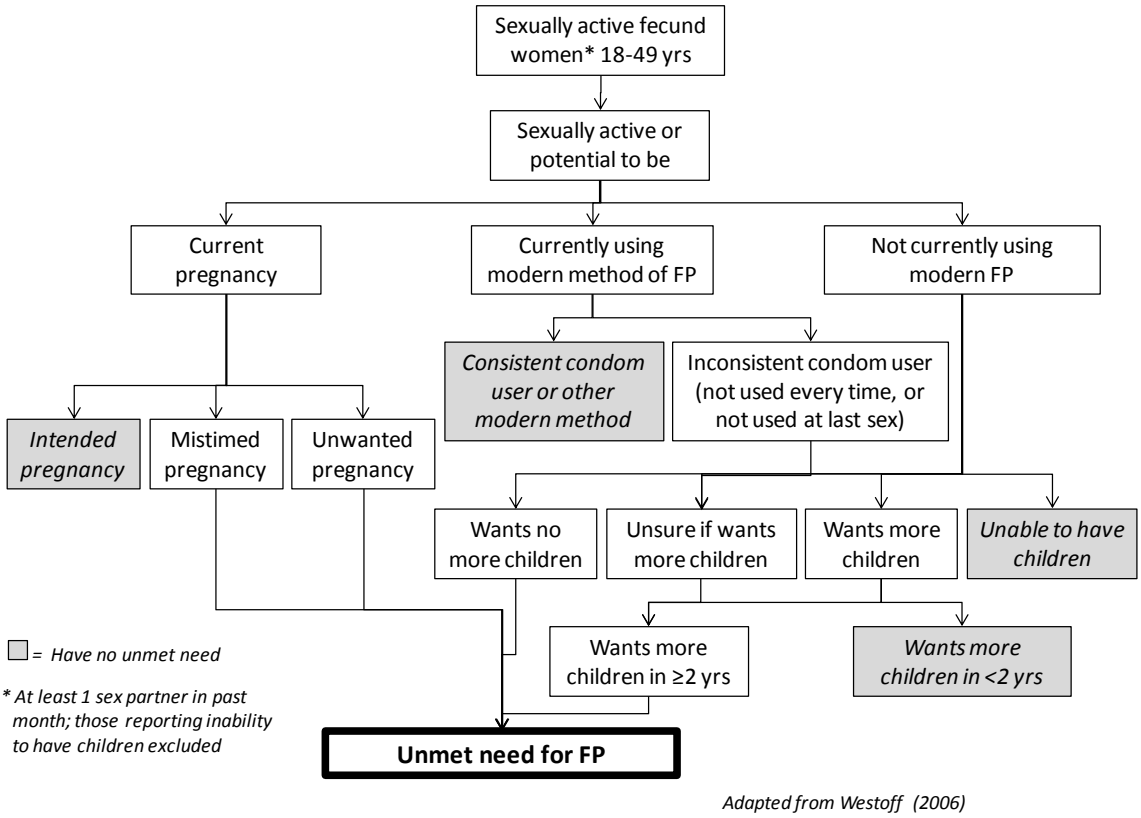
Unmet need for family planning

For the purposes of this analysis, the standard DHS definition of unmet need for family planning was adapted due to high proportions of clients relying on condoms for contraceptive protection.[33] This has also been suggested as important by others looking at unmet need among PLWH (Adamchak et al., 2010). Figure 6.1 shows how the variable was constructed. As per the standard DHS definition, fecund women of reproductive age (18-49) who are currently pregnant, but whose pregnancy was mistimed or unwanted are classified as having an unmet need. Sexually active non-pregnant women of reproductive age are defined as having an unmet need if they are not currently using a modern contraceptive method and if they don't want more children or if they don't want another child in the next 2 years. This variable differs to the DHS definition among women who report using condoms as a method of contraception: women

[33] The definition differs to the DHS in the following ways for the following reasons:
a) Unmarried and divorced/widowed women are included in the denominator, due to the high prevalence of pre-marital, or non-marital cohabitation in Swaziland.
b) Postpartum women were classified in the same way to other non-pregnant women, because data on postpartum amenorrhoea were not captured.
c) Menopausal women were treated in the same way as other women, because data on menopause were not captured (the DHS classified these women in the same way as infecund women, i.e. excluded from the denominator of unmet need).
d) Only women aged 18-49 are included since the survey was not conducted with younger women; DHS interviews women aged 15-49.

who are classified as inconsistent condom users (see above) and who don't want more children in the next 2 years are also classified as having an unmet need for family planning.

Figure 6.1: Defining unmet need for family planning



Adapted from Westoff (2006)

SDHS comparison

In order to compare the findings from this chapter to national figures on contraceptive use and unmet need for family planning, SDHS data were also analysed. The SDHS HIV dataset was merged into the individual women's questionnaire dataset, with files merged on client ID numbers.[34] Sample weights were assigned to each data point to account for clustering in the survey design, and these were used in subsequent analyses. Three variables were constructed from the SDHS data to compare findings with the HIV clinic survey data. These were:

- Standard DHS unmet need definition (binary variable) ('STANDARD DHS')
- Unmet need including unmarried women in the denominator aged 18-49 ('ALL WOMEN 18-49 DHS')

[34] Client ID numbers for the HIV database were created based on cluster, household and line number (to create matching dataset ID numbers).

- Unmet need including unmarried women in the denominator, AND classifying inconsistent condom users who want no more children as having unmet need[35] ('CONDOM DHS')

Qualitative data

As reported in Chapter 4, qualitative data were analysed thematically using a matrix approach to allow cross-clinic comparisons. Findings from providers and clients were also compared and contrasted. Points of emphasis in the qualitative data have been underlined by the researcher where appropriate.

6.2 A quantitative assessment of family planning practices & needs

6.2.1 Partnerships & sexual behaviour

Table 6.2 displays data on partnership and sero-concondancy status, by sex. Overall, 88% of men and 79% of women reported having a regular partner. Since these data are taken from a separate indicator on regular partners to the marital status indicator reported in Chapter 5, this includes those not co-habiting. Among men with a regular partner (N=114), 50% were living in a sero-concordant relationship, 18% in a sero-discordant one, and 32% were unaware of partner status; among women (N=382), 36% were living in a concordant relationship, 11% in a discordant one, and 53% were unaware of partner status. There was weak evidence that these figures varied across clinic model in women (p=0.097), and they did not vary significantly in men.

[35] Those classified as inconsistent condom users were women who reported using condoms for contraceptive protection and who either a) reported not using condom at last sex; or b) did not use a condom every time they had sex with last sex partner or next to last sex partner in past 12 months.

Figure 6.2: Sero-concordancy status, by sex

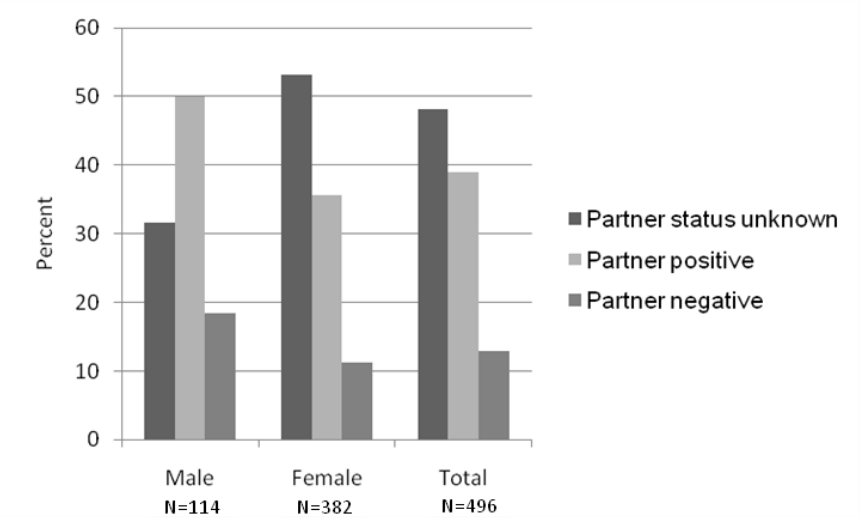


Table 6.2: Partnership status and sero-concordancy, by clinic and by sex

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value χ^2
MEN						
Partnership						
No regular partner	11.8 (2)	10.0 (2)	14.9 (7)	8.9 (4)	11.6 (15)	0.833
Regular partner	88.2 (15)	90.0 (18)	85.1 (40)	91.1 (41)	88.4 (114)	
Total	**100.0 (17)**	**100.0 (20)**	**100.0 (47)**	**100.0 (45)**	**100.0 (129)**	
Partner HIV concordancy*						
Partner status unknown	46.7 (7)	38.9 (7)	30.0 (12)	24.4 (10)	31.6 (36)	0.673
Partner positive	40.0 (6)	38.9 (7)	55.0 (22)	53.7 (22)	50.0 (57)	
Partner negative	13.3 (2)	22.2 (4)	15.0 (6)	22.0 (9)	18.4 (21)	
Total	**100.0 (15)**	**100.0 (18)**	**100.0 (40)**	**100.0 (41)**	**100.0 (114)**	
WOMEN						
Partnership						
No regular partner	21.8 (12)	10.3 (15)	24.3 (33)	27.6 (40)	20.8 (100)	0.002
Regular partner	78.2 (43)	89.7 (131)	75.7 (103)	72.4 (105)	79.3 (382)	
Total	**100.0 (55)**	**100.0 (146)**	**100.0 (136)**	**100.0 (145)**	**100.0 (482)**	
Partner HIV concordancy*						
Partner status unknown	46.5 (20)	58.0 (76)	47.6 (49)	55.2 (58)	53.1 (203)	0.097
Partner positive	34.9 (15)	32.1 (42)	45.6 (47)	30.5 (32)	35.6 (136)	
Partner negative	18.6 (8)	9.9 (13)	6.8 (7)	14.3 (15)	11.3 (43)	
Total	**100.0 (43)**	**100.0 (131)**	**100.0 (103)**	**100.0 (105)**	**100.0 (382)**	

*Among regular partners disclosing results to interviewers

Table 6.3 displays data on the sexual behaviour, by sex. Overall, few respondents reported multiple sexual partnerships, either in the past month or past year. Looking over the past year, a

lower proportion of men reported no sexual partners than women (11% vs 17%), but this varied less in the past month (28% vs 31%). Among women, there was weak evidence that the number of recent sexual partners varied by clinic (p=0.059).

Table 6.3: Sexual behaviour, by clinic, by sex

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value (χ2)
MEN						
No. sex partners in past yr						
No sex partners	5.9 (1)	10.0 (2)	17.0 (8)	6.7 (3)	10.9 (14)	0.650
1 sex partner	64.7 (11)	60.0 (12)	48.9 (23)	64.4 (29)	58.1 (75)	
2 sex partners	11.8 (2)	25.0 (5)	17.0 (8)	13.3 (6)	16.3 (21)	
>=3 sex partners	3.0 (3)	1.0 (1)	1.1 (8)	1.1 (7)	1.5 (19)	
No. sex partners in past month						
No sex partners	29.4 (5)	40.0 (8)	40.4 (19)	8.9 (4)	27.9 (36)	0.011
1 sex partner	70.6 (12)	50.0 (10)	48.9 (23)	71.1 (32)	59.7 (77)	
>=2 sex partners	0.0 (0)	10.0 (2)	10.6 (5)	20.0 (9)	12.4 (16)	
Total no. men (N=129)	**100.0 (17)**	**100.0 (20)**	**100.0 (47)**	**100.0 (45)**	**100.0 (129)**	
WOMEN						
No. sex partners in past yr						
No sex partners	10.9 (6)	6.9 (10)	22.1 (30)	25.5 (37)	17.2 (83)	0.001
1 sex partner	85.5 (47)	80.8 (118)	67.7 (92)	66.9 (97)	73.4 (354)	
2 sex partners	0.0 (0)	7.5 (11)	5.9 (8)	6.2 (9)	5.8 (28)	
>=3 sex partners	3.6 (2)	4.8 (7)	4.4 (6)	1.4 (2)	3.5 (17)	
No. sex partners in past month						
No sex partners	30.9 (17)	26.0 (38)	36.0 (49)	32.4 (47)	31.3 (151)	0.059
1 sex partner	69.1 (38)	72.6 (106)	64.0 (87)	63.5 (92)	67.0 (323)	
>=2 sex partners	0.0 (0)	1.4 (2)	0.0 (0)	4.1 (6)	1.7 (8)	
Total no. women (N=482)	**100.0 (55)**	**100.0 (146)**	**100.0 (136)**	**100.0 (145)**	**100.0 (482)**	

6.2.2 Contraceptive use

Table 6.4 and Table 6.5 display trends in current and past contraceptive use across the four clinics among women and men.

Looking first at women in Table 6.4, a relatively high proportion reported current contraceptive use (60%), with this proportion highest at Clinic B where 73% reported current use. Among those using contraception, the majority used modern methods, with only a small fraction using herbal pills or withdrawal. The distribution of methods varied little across clinic (p=0.147). The majority of current contraceptive users relied on condoms alone for contraceptive protection

(77%), followed by injectables (15%), then pills (5%). Injectable use was highest in Clinic B (24%), where condom use was lowest (66%). Among those reporting having a sex partner in the past month, current modern method use was higher, at 83%, and this also did not vary by clinic (p=0.608).

To gain a sense of changes in contraceptive behaviour following an HIV diagnosis, current condom users were asked if they had previously used any other method since testing positive. Table 6.5 shows that 19% of the 182 (female) current condom users had previously used another method, the majority of whom had used injectables (79%). This proportion was highest in Clinics B and C, with 36% and 28% respectively stopping previous method use. These current condom users who had previously used another method were also asked their reasons for switching. As shown in Figure 6.3, among the 38 women who had used another method, the most common reasons cited for switching to condoms were problems with method side effects (50%) and the provider advising condom use (29%).

Among women who were not current contraceptive users, 33% reported being past users who stopped after testing HIV positive, and again the majority of these were condom users (60%). Past contraceptive method mix varied across clinic, with the proportion of past condom users far greater in Clinic C (78%) than at other sites. Figure 6.4 displays the reasons for stopping past method use among the 86 women who reported stopping a method after testing positive; while the majority of respondents either did not report a reason, or were categorized as 'other' (since only 1 person reported it), important reasons for stopping were side-effects (15%), stopping to have a baby (12%), and being advised to use condoms by their health care provider (11%). While the samples in Figures 6.3 and 6.4 are not large, thus precluding an analysis by clinic model, they do demonstrate the important role the provider plays in advising on contraceptive choices.

Overall, when both current and past use of contraceptives is considered, a total of 66% of women reported ever using contraceptives since their positive HIV test. This figure does vary by clinic (p=0.017), with ever use highest in Clinic B (75%) and lowest in Clinic A (56%).

Table 6.4: Contraceptive use in women

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value (χ^2)
Among women not currently pregnant (N=394):						
Current use (all methods)*						
No	45.0 (18)	26.9 (25)	46.3 (57)	41.3 (57)	39.9 (157)	0.026
Yes	55.0 (22)	73.1 (68)	53.7 (66)	58.7 (81)	60.2 (237)	
Current modern method use †						
No	45.0 (18)	31.2 (29)	46.3 (57)	41.3 (57)	40.9 (161)	0.143
Yes	55.0 (22)	68.8 (64)	53.7 (66)	58.7 (81)	59.1 (233)	
Current use by method type‡						
Condoms (only)	86.4 (19)	66.2 (45)	77.3 (51)	82.7 (67)	76.8 (182)	0.147
Injectable	9.1 (2)	23.5 (16)	10.6 (7)	12.4 (10)	14.8 (35)	
Pills	0.0 (0)	2.9 (2)	10.6 (7)	2.5 (2)	4.6 (11)	
IUD	4.6 (1)	1.5 (1)	0.0 (0)	1.2 (1)	1.3 (3)	
Implants	0.0 (0)	0.0 (0)	0.0 (0)	1.2 (1)	0.4 (1)	
Female sterilization	0.0 (0)	0.0 (0)	1.5 (1)	0.0 (0)	0.4 (1)	
LAM	0.0 (0)	1.5 (1)	0.0 (0)	0.0 (0)	0.4 (1)	
Herbal Pills	0.0 (0)	1.5 (1)	0.0 (0)	0.0 (0)	0.4 (1)	
Withdrawal	0.0 (0)	2.9 (2)	0.0 (0)	0.0 (0)	0.8 (2)	
Non-user	*(18)*	*(25)*	*(57)*	*(57)*	*(157)*	
Total	**100.0 (40)**	**100.0 (93)**	**100.0 (123)**	**100.0 (138)**	**100.0 (394)**	
Among those reporting sex in past month (N=256)						
Modern method use						
No	23.1 (6)	12.9 (8)	19.7 (15)	16.3 (15)	17.2 (44)	0.608
Yes	76.9 (20)	87.1 (54)	80.3 (61)	83.7 (77)	82.8 (212)	
Total	**100.0 (26)**	**100.0 (62)**	**100.0 (76)**	**100.0 (92)**	**100.0 (256)**	
Among non-current users & currenly pregnant (N=245):						
Past use						
Never user since testing	72.7 (24)	46.2 (36)	67.1 (47)	87.5 (56)	66.5 (163)	<0.001
Past user since testing positive, but stopped	27.3 (9)	53.9 (42)	32.9 (23)	9.4 (6)	32.7 (80)	
Missing	*0.0 (0)*	*0.0 (0)*	*0.0 (0)*	*3.1 (2)*	*0.8 (2)*	
Past use by method type†						
Condoms (only)	44.4 (4)	57.1 (24)	78.3 (18)	33.3 (2)	60.0 (48)	0.001
Injectable	22.2 (2)	31.0 (13)	13.0 (3)	16.7 (1)	23.8 (19)	
Pills	0.0 (0)	11.9 (5)	8.7 (2)	33.3 (2)	11.3 (9)	
IUD	11.1 (1)	0.0 (0)	0.0 (0)	16.7 (1)	2.5 (2)	
Herbal Pills	22.2 (2)	0.0 (0)	0.0 *(0)*	0.0 (0)	2.5 (2)	
Abstinence	0.0 (0)	0.0 (0)	0.0 *(0)*	0.0 (0)	0.0 (0)	
Non-user/missing	*(24)*	*(36)*	*(47)*	*(58)*	*(165)*	
Total	**100.0 (33)**	**100.0 (78)**	**100.0 (70)**	**100.0 (64)**	**100.0 (245)**	
Among all women (N=482):						
Used modern method since testing positive						
Never used since test	43.6 (24)	24.7 (36)	34.6 (47)	40.0 (58)	34.2 (165)	
Ever used since test	56.4 (31)	75.3 (110)	65.4 (89)	60.0 (87)	65.8 (317)	0.017
Total	**100.0 (55)**	**100.0 (146)**	**100.0 (136)**	**100.0 (145)**	**100.0 (482)**	

* Modern methods: pills, injectables, IUD, implants, female sterilization, male and female condoms (alone), LAM

† Percentage of method mix, excludes those not contracepting

Table 6.5: Previous method use among current condom users (women)

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value (χ2)
Current condom users previous use						
No other method	94.7 (18)	64.4 (29)	72.5 (37)	95.5 (64)	81.3 (148)	<0.001
Stopped other method	5.3 (1)	35.6 (16)	27.5 (14)	4.5 (3)	18.7 (34)	
Total	**100.0 (19)**	**100.0 (45)**	**100.0 (51)**	**100.0 (67)**	**100.0 (182)**	
Previous method used (N=38)						
Pills	0.0 (0)	12.5 (2)	14.3 (2)	0.0 (0)	11.8 (4)	*
Herbal pills	100.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	2.9 (1)	
Injectables	0.0 (0)	87.5 (14)	85.7 (12)	33.3 (1)	79.4 (27)	
Withdrawal	0.0 (0)	0.0 (0)	0.0 (0)	66.7 (2)	5.9 (2)	

* No statistcal test possible due to small sample in each strata

Figure 6.3: Reasons for stopping other method use among female current condom users

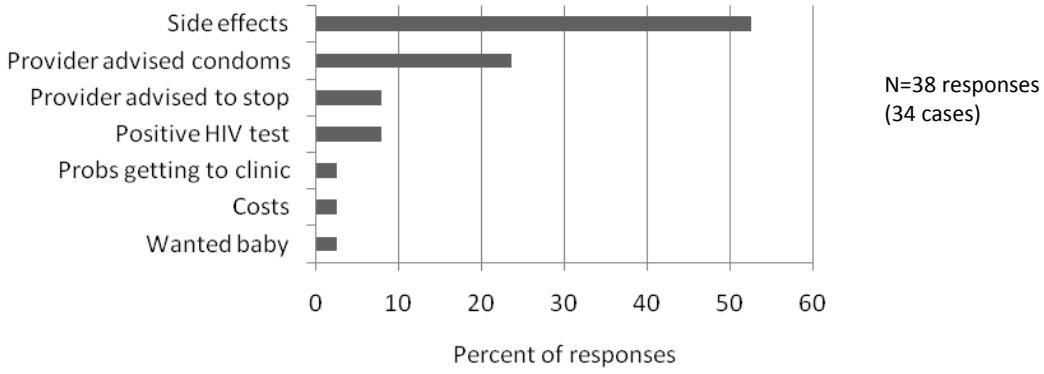


Figure 6.4: Reasons for stopping past method use in women not currently using contraception

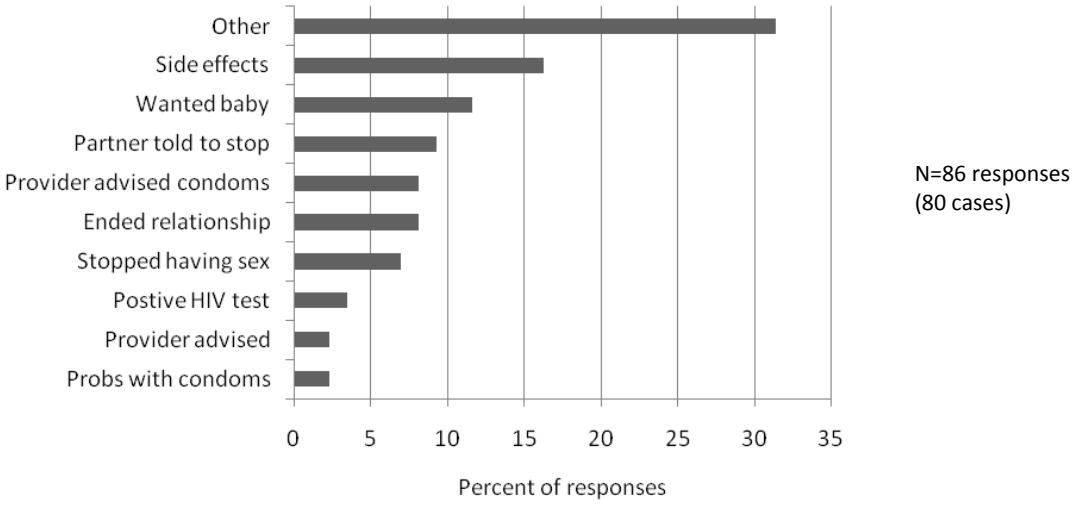


Table 6.7 shows data on contraceptive use in men. In total, 75% of men reported current (modern) method use, and of those, the great majority were condom users (87%). A few men reported other method use (in their partners), with nine reporting injectable use, one pill use, one IUD use, and one female sterilization. Current method use varied by clinic (p=0.013) and was greatest at Clinic D (91%) and lowest at Clinic A (53%). Past use in men among non-current users was low (8 men). In total, 80% reported ever use since testing positive, which also varied by clinic (p=0.017), being greatest again at Clinic D (80%) and lowest at Clinic A (59%).

Table 6.6 shows the extent to which respondents discussed family planning with partners, by sex. More than half of women had discussed family planning with a partner either many times (26%) or a few times (26%); however, a relatively important proportion had never discussed it (22%). Among men, the largest group reported discussing family planning frequently with a partner (41%), though the patterns across clinic were different, with this figure highest at Clinic D (67%) and lowest at Clinic A (6%). At Clinic A, most men reported never discussing (41%) or discussing only once (24%) with their partner, although the total sample of men at that site is low (17 men) and so the confidence intervals around these estimates are wide.

Table 6.6: Ever discussed FP with partner, by clinic and by sex

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value (χ^2)
WOMEN						
Never	10.9 (6)	25.3 (37)	28.7 (39)	15.9 (23)	21.8 (105)	<0.001
Once	10.9 (6)	14.4 (21)	1.5 (2)	6.2 (9)	7.9 (38)	
A few times	29.1 (16)	38.4 (56)	22.8 (31)	14.5 (21)	25.7 (124)	
Many times	30.9 (17)	15.8 (23)	23.5 (32)	35.9 (52)	25.7 (124)	
No partner	18.2 (10)	6.2 (9)	23.5 (32)	27.6 (40)	18.9 (91)	
TOTAL (WOMEN)	**100.0 (55)**	**100.0 (146)**	**100.0 (136)**	**100.0 (145)**	**100.0 (482)**	
MEN						
Never	41.2 (7)	25.0 (5)	23.4 (11)	2.2 (1)	18.6 (24)	<0.001
Once	23.5 (4)	10.0 (2)	2.1 (1)	4.4 (2)	7.0 (9)	
A few times	17.7 (3)	25.0 (5)	29.8 (14)	17.8 (8)	23.3 (30)	
Many times	5.9 (1)	35.0 (7)	31.9 (15)	66.7 (30)	41.1 (53)	
No partner	11.8 (2)	5.0 (1)	12.8 (6)	8.9 (4)	10.1 (13)	
TOTAL (MEN)	**100.0 (17)**	**100.0 (20)**	**100.0 (47)**	**100.0 (45)**	**100.0 (129)**	

Table 6.7: Current and past contraceptive use in men

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value (χ2)
Current use (all methods)*						
No	47.1 (8)	30.0 (6)	29.8 (14)	9.3 (4)	25.2 (32)	0.013
Yes	52.9 (9)	70.0 (14)	70.2 (33)	90.7 (39)	74.8 (95)	
Current modern method use †						
No	47.1 (8)	30.0 (6)	29.8 (14)	9.3 (4)	25.2 (32)	0.013
Yes	52.9 (9)	70.0 (14)	70.2 (33)	90.7 (39)	74.8 (95)	
Current use by method type‡						
Condoms (only)	77.8 (7)	78.6 (11)	81.8 (27)	97.4 (38)	87.4 (83)	0.028
Injectable	11.1 (1)	21.4 (3)	12.1 (4)	2.6 (1)	9.5 (9)	
Pills	0.0 (0)	0.0 (0)	3.0 (1)	0.0 (0)	1.1 (1)	
IUD	11.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	1.1 (1)	
Female sterilization	0.0 (0)	0.0 (0)	3.0 (1)	0.0 (0)	1.1 (1)	
Non-user	*(8)*	*(6)*	*(14)*	*(4)*	*(32)*	
Total	**100.0 (17)**	**100.0 (20)**	**100.0 (47)**	**100.0 (43)**	**100.0 (127)**	
Among non-current users (N=34):						
Past use						
Never user since testing positive	87.5 (7)	83.3 (5)	71.4 (10)	66.7 (4)	76.5 (26)	0.749
Past user since testing positive, but stopped	12.5 (1)	16.7 (1)	28.6 (4)	33.3 (2)	23.5 (8)	
Past use by method type†						
Condoms (only)	100.0 (1)	100.0 (1)	75.0 (3)	100.0 (2)	87.5 (7)	0.767
Abstinence	0.0 (0)	0.0 (0)	25.0 *(1)*	0.0 (0)	12.5 (1)	
Non-user	*(7)*	*(5)*	*(10)*	*(4)*	*(26)*	
Total	**100.0 (8)**	**100.0 (6)**	**100.0 (14)**	**100.0 (6)**	**100.0 (34)**	
Among all men (N=129):						
Used modern method since testing positive						
Never used since test	41.2 (7)	25.0 (5)	21.3 (10)	8.9 (4)	20.2 (26)	
Ever used since test	58.8 (10)	75.0 (15)	78.7 (37)	91.1 (41)	79.8 (103)	0.017
Total	**100.0 (17)**	**100.0 (20)**	**100.0 (47)**	**100.0 (45)**	**100.0 (129)**	

* Among men whose partner was not currently pregnant

† Modern methods: pills, injectables, IUD, implants, female sterilization, male and female condoms

‡ Percentage of method mix, excludes those not contracepting

6.2.3 Condom use

Given the high level of condom use for contraceptive protection in the population, it is important to examine this area in more detail. Table 6.8 displays data on condom use, including dual method use (condoms and another method), among both men and women (excluding currently pregnant repondents or men with pregnant partners, who were not asked this

question). Among women, 47% used no condom (for family planning), and notably only 7% used condoms together with another method. Dual method use was highest where other contraceptive use was highest, i.e. Clinic B (15%). Very few women (anywhere) reported using female condoms (2%). Among men, the same proportion reported dual method use (7%), and this figure was again highest at Clinic B (15%).

Table 6.8: Condom use and dual method use, by clinic, by sex

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value (χ^2)
WOMEN*						
No condoms	50.0 (20)	36.6 (34)	55.3 (68)	44.9 (62)	46.7 (184)	0.042
Dual method	2.5 (1)	15.1 (14)	3.3 (4)	6.5 (9)	7.1 (28)	
Male condom only	45.0 (18)	46.2 (43)	39.8 (49)	45.7 (63)	43.9 (173)	
Female condom only	2.5 (1)	2.2 (2)	1.6 (2)	2.9 (4)	2.3 (9)	
Total	**100.0 (40)**	**100.0 (93)**	**100.0 (123)**	**100.0 (138)**	**100.0 (394)**	
MEN*						
No condoms	47.1 (8)	30.0 (6)	36.2 (17)	9.3 (4)	27.6 (35)	0.042
Dual method	11.8 (2)	15.0 (3)	6.4 (3)	2.3 (1)	7.1 (9)	
Male condom only	41.2 (7)	55.0 (11)	55.3 (26)	81.4 (35)	62.2 (79)	
Female condom only	0.0 (0)	0.0 (0)	2.1 (1)	7.0 (3)	3.2 (4)	
Total	**100.0 (17)**	**100.0 (20)**	**100.0 (47)**	**100.0 (43)**	**100.0 (127)**	

*Among those not currently pregnant, or men whose partner was not currently pregnant

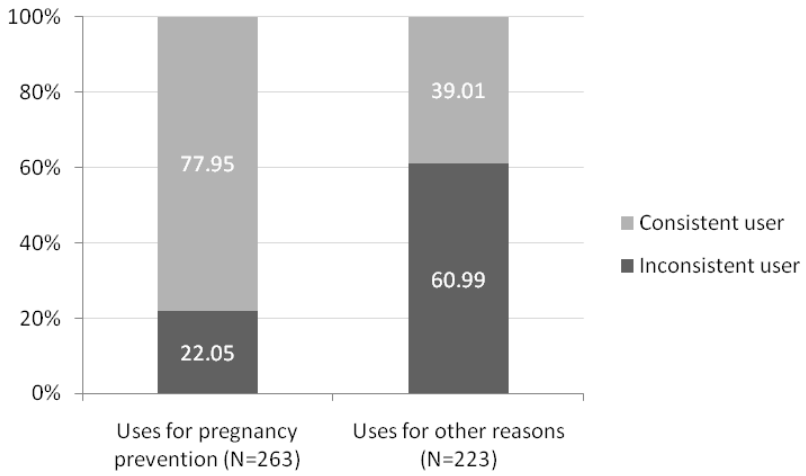
As outlined in Section 6.1, participants were also asked two questions to guage condom use consistency. These findings are shown in Table 6.9. Rates of reported condom use at last sex were high (72% among women and 81% among men), with little evidence for a difference across clinic (p=0.178 in women; p=0.383 in men). The second measure, on type of condom user, found that only 45% of women and 61% of men were consistent users, while 33% and 25% respectively were inconsistent users, with variation in these rates across clinic (p<0.001 in women; p=0.01 in men). The largest difference in the two measures was at Clinic A, where only 36% of women were recorded as consistent users, compared to 69% reporting condom use at last sex; and only 47% of men were recorded as consistent, compared to 82% reporting condom use at last sex. Taking the two measures together, in total 49% of clients were using condoms inconsistently.

Table 6.9: Condom use consistency, by clinic by sex

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value (χ2)
WOMEN						
Condom use at last sex						
Condom used	69.1 (38)	74.7 (109)	72.1 (98)	62.8 (91)	69.7 (336)	0.178
Condom not used	29.1 (16)	23.3 (34)	24.3 (33)	31.0 (45)	26.6 (128)	
Not answered or missing	1.8 (1)	2.1 (3)	3.7 (5)	6.2 (9)	3.7 (18)	
Type of condom user						
Consistent user	36.4 (20)	44.5 (65)	50.0 (68)	44.1 (64)	45.0 (217)	<0.001
Inconsistent user	38.2 (21)	42.5 (62)	25.7 (35)	27.6 (40)	32.8 (158)	
Never use condoms	9.1 (5)	6.2 (9)	4.4 (6)	2.1 (3)	4.8 (23)	
Not having sex	14.6 (8)	6.2 (9)	19.9 (27)	26.2 (38)	17.0 (82)	
Refused to answer	1.8 (1)	0.7 (1)	0.0 (0)	0.0 (0)	0.4 (2)	
Total (women)	**100.0 (55)**	**100.0 (146)**	**100.0 (136)**	**100.0 (145)**	**100.0 (482)**	
MEN						
Condom use at last sex						
Condom used	82.4 (14)	80.0 (16)	74.5 (35)	86.7 (39)	80.6 (104)	0.383
Condom not used	17.7 (3)	20.0 (4)	14.9 (7)	13.3 (6)	15.5 (20)	
Not answered or missing	0.0 (0)	0.0 (0)	10.6 (5)	0.0 (0)	3.9 (5)	
Type of condom user						
Consistent user	47.1 (8)	60.0 (12)	46.8 (22)	80.0 (36)	60.5 (78)	0.01
Inconsistent user	41.2 (7)	10.0 (2)	36.2 (17)	13.3 (6)	24.8 (32)	
Never use condoms	5.9 (1)	15.0 (3)	4.3 (2)	0.0 (0)	4.7 (6)	
Not having sex	5.9 (1)	15.0 (3)	12.8 (6)	6.7 (3)	10.1 (13)	
Refused to answer	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	
Total (men)	**100.0 (17)**	**100.0 (20)**	**100.0 (47)**	**100.0 (45)**	**100.0 (129)**	

The level of condom use consistency was compared across reason for condom use i.e. comparing those using condom for family planning (pregnancy prevention) vs other condom users. Those who reported not having sex or never using condoms were excluded. These results are displayed in Figure 6.5. A much higher proportion of those using condoms for pregnancy prevention reported consistent use than those who used them for other reasons (78% vs 39%), and the crude odds of consistent condom use among those using condoms for pregnancy prevention were therefore over 5 times greater than those using them for other reasons (presumably for infection prevention) (cOR 5.53, 95%CI 3.59-8.51). Differences in condom use consistency among those using condoms for pregnancy prevention, unlike the general population, did not vary significantly by clinic (p=0.488). Consistent use was also cross-tabulated by perceived HIV status of the partner, which could impact on motivation for condom use, but there was no crude association (p=0.277).

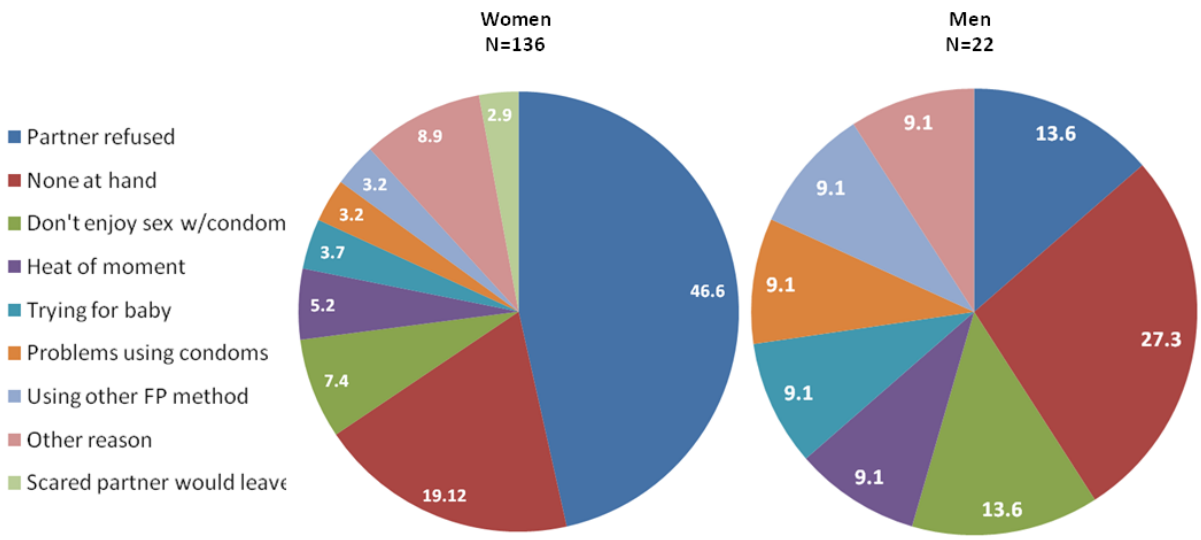
Figure 6.5: Condom use consistency by type of FP user (N=486)*



**excludes those not sexually active, those who refused to answer about their consistency of condom use and those who report never using condoms*

Respondents who reported NOT using a condom at last sex were also asked why this was the case. These results are displayed by sex in Figure 6.6. Among women (N=136), the most common reasons were partner refusal (47%), availability at time of intercourse (19%), and pleasure barriers (7%). Among men (N=22), partner refusal was less common (13%), but availability at time of intercourse was more important (27%) (although the sample size here was very small).

Figure 6.6: Reasons for no condom use at last sex (by sex)



(N=148, with 158 responses)

6.2.4 Fertility and pregnancy intentions

Table 6.10 shows fertility intentions by clinic. A large proportion of clients across all clinics wanted no more children (65%), although those at Clinic A had greater future fertility desires. Among those who wanted more children in the future, most wanted to wait several years, with a population mean desired birth spacing of 3.4 years.[36] The mean desired family size varied across clinic (p<0.001), with those in Clinic B desiring the fewest children (2.6, SD 1.3) and those in Clinc C desiring the most (3.4, SD 1.9).

Table 6.10: Fertility desires (N(%) or mean(SD))

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value (χ2)
Desire for future children						
Wants no more children	52.8 (38)	62.7 (104)	67.2 (123)	69.0 (131)	64.8 (396)	0.001*
Not sure	4.2 (3)	10.8 (18)	2.7 (5)	2.6 (5)	5.1 (31)	
Wants more children	43.1 (31)	25.3 (42)	26.2 (48)	28.4 (54)	28.6 (175)	
Unable to have children	*0.0 (0)*	*1.2 (2)*	*3.8 (7)*	*0.0 (0)*	*1.5 (9)*	
Total	**100.0 (72)**	**100.0 (166)**	**100.0 (183)**	**100.0 (190)**	**100.0 (611)**	
	Mean (SD)	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**F stat (p value)**
Desired birthspacing in yrs for next child (mean (SD)) (N=200)	3.1 (2.8)	4.1 (3.0)	3.4 (2.6)	3.1 (2.5)	3.4 (2.7)	1.58 (0.20)
Desired family size (mean (SD))	3 (1.6)	2.6 (1.3)	3.4 (1.9)	2.9 (1.3)	3 (1.6)	7.82 (<0.001)

*Excludes those unable to have children

Table 6.11 displays measures of unintended pregnancies in WLWH since testing HIV positive. Overall, 23% of women reported having a pregnancy since testing positive, which varied significantly by clinic (p<0.001). Only 7.6% of women at Clinic D reported a pregnancy, compared to 36% of women at Clinic B.[37] Of the 109 pregnancies reported, only 29% were planned at that time, 24% were mistimed, and 47% were not wanted at all. There is evidence that these figures varied by clinic (p=0.021), however total sample and cell sizes are small, and thus confidence intervals on these estimates are likely to be wide, precluding further analysis of unintended pregnancy on its own.

[36] Desired birth spacing was measured from day of survey to timing of next child.
[37] Women who tested positive during a *current* pregnancy were not counted as having a pregnancy with HIV, since they were previously unaware of their status.

Table 6.11: Unintended pregnancies (women only)

Variable	Clinic A N (%)	Clinic B N (%)	Clinic C N (%)	Clinic D N (%)	All clinics N (%)	P value (χ^2)
Pregnancy since testing positive						
No pregnancy	76.4 (42)	63.7 (93)	76.5 (104)	92.4 (134)	77.4 (373)	<0.001
Pregnancy since positive*	23.6 (13)	36.3 (53)	23.5 (32)	7.6 (11)	22.6 (109)	
TOTAL (all women)	**100.0 (55)**	**100.0 (146)**	**100.0 (136)**	**100.0 (145)**	**100.0 (482)**	
Intendedness of last pregnancy†						
Wanted pregnancy then	30.8 (4)	28.3 (15)	18.8 (6)	63.6 (7)	29.4 (32)	0.021
Wanted pregnancy later	23.1 (3)	32.1 (17)	12.5 (4)	18.2 (2)	23.9 (26)	
Did not want a child	46.2 (6)	39.6 (21)	68.8 (22)	18.2 (2)	46.8 (51)	
Total (among women with previous pregnancy)	**100.0 (13)**	**100.0 (53)**	**100.0 (32)**	**100.0 (11)**	**100.0 (109)**	

*Women who tested HIV positive during a current pregnancy are categorized as 'no pregnancy'

6.2.5 Unmet needs for family planning

A composite indicator of unmet need for family planning was constructed using data on contraceptive use, fertility desires, condom use, and pregnancy intendedness. Table 6.12 shows that among sexually active fecund women of reproductive age (<50) (N=286), a total of 32% had an unmet need for family planning. This was comprised of 63 women who were not using a modern method of family planning (inconsistent condom users were counted as non-users) and who wanted no more children or wanted children after a 2 year interval; as well as 28 currently pregnant women who reported a mistimed or unwanted pregnancy. There is evidence that unmet needs varied by clinic (p=0.035), with unmet needs actually highest in the two integrated sites Clinic A (46%) and Clinic B (40%). This is contrasted with the stand-alone sites Clinic C (26%), and Clinic D (25%). This is also shown graphically in Figure 6.7.

Unmet needs for family planning also varied across other client background characteristics, as shown in Figure 6.8. While factors associated with unmet needs will be explored further in the next chapter through a multivariable analysis, it is important to highlight some emerging patterns here. The strongest association was with current pregnancy (p<0.001), which reflects the high levels of unintended pregnancies mentioned earlier. Other statistically significant associations include education (p=0.029), discuss family planning with partner (p=0.014) and being on ARVs (p=0.027). It is also worth highlighting that unmet needs were highest in the oldest age group; and among the unmarried. Figure 6.9 shows unmet needs for family planning

across the length of time clients have been on ART, which decreased significantly over time ($\chi 2$ test for trend, p=0.007).

Table 6.12: Unmet needs for family planning in women

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value ($\chi 2$)
All women:	**(55)**	**(146)**	**(136)**	**(145)**	**(482)**	
≥ 50 yrs	**(0)**	**(0)**	**(7)**	**(5)**	**(12)**	
Infecund*	(0)	(2)	(1)	(0)	(3)	
No sex partner in past month	(15)	(34)	(49)	(46)	(144)	
Missing†	(7)	(24)	(5)	(1)	(37)	
Total women <50 & sexually active & fecund	**(33)**	**(86)**	**(74)**	**(93)**	**(286)**	
FP use among non-pregnant women:						
Not using modern method	23.1 (6)	13.3 (8)	16.2 (11)	12.6 (11)	14.9 (36)	
Currently using modern method	76.9 (20)	86.7 (52)	83.8 (57)	87.4 (76)	85.1 (205)	
Total non-pregnant women:	**100.0 (26)**	**100.0 (60)**	**100.0 (68)**	**100.0 (87)**	**100.0 (241)**	
Condom consistency mong modern method users:						
Consistent condom user or other method user	70.0 (14)	76.9 (40)	91.2 (52)	79.0 (60)	81.0 (166)	
Inconsistent condom user	30.0 (6)	23.1 (12)	8.8 (5)	21.1 (16)	19.0 (39)	
Total modern method users:	**100.0 (20)**	**100.0 (52)**	**100.0 (57)**	**100.0 (76)**	**100.0 (205)**	
Fertility desires among unprotected:‡						
Want no more children	41.7 (5)	50.0 (10)	68.8 (11)	74.1 (20)	61.3 (46)	
Unsure or wants more in ≥ 2 yrs	50.0 (6)	30.0 (6)	18.8 (3)	7.4 (2)	22.7 (17)	
Unsure or wants more in < 2 yrs	8.3 (1)	20.0 (4)	12.5 (2)	18.5 (5)	16.0 (12)	
Total unprotected:‡	**100.0 (12)**	**100.0 (20)**	**100.0 (16)**	**100.0 (27)**	**100.0 (75)**	
Pregnancy intendedness among currently pregnant:						
Intended pregnancy	42.9 (3)	30.8 (8)	16.7 (1)	83.3 (5)	37.8 (17)	
Mistimed pregnancy	14.3 (1)	34.6 (9)	16.7 (1)	0.0 (0)	24.4 (11)	
Unwanted pregnancy	42.9 (3)	34.6 (9)	66.7 (4)	16.7 (1)	37.8 (17)	
Total currently pregnant:	**100.0 (7)**	**100.0 (26)**	**100.0 (6)**	**100.0 (6)**	**100.0 (45)**	
TOTAL UNMET NEED FOR FP among sexually active fecund women <50 yrs:						
Need met	54.6 (18)	60.5 (52)	74.3 (55)	75.3 (70)	68.2 (195)	0.035
Unmet need	45.5 (15)	39.5 (34)	25.7 (19)	24.7 (23)	31.8 (91)	
Total:	**100.0 (33)**	**100.0 (86)**	**100.0 (74)**	**100.0 (93)**	**100.0 (286)**	

* Responded "unable to have children" to question on future fertility desires

† Women who tested positive during a current pregnancy had no data on intendedness of pregnancy

‡ Among inconsistent condom users and no method

= Women with unmet need for family planning

Figure 6.7: Unmet need for family planning in sexually active women of reproductive age (N=286)

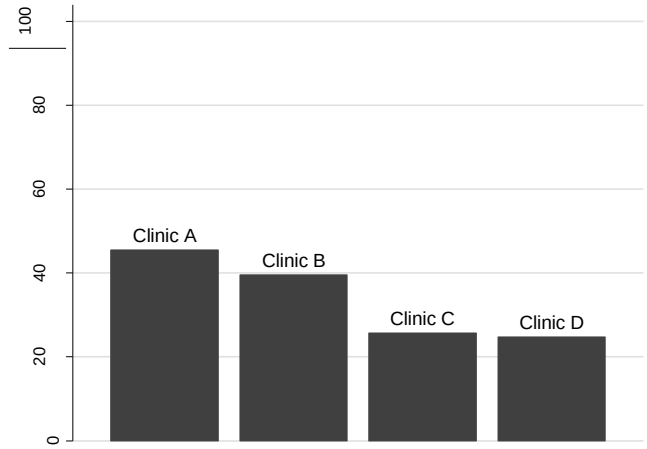


Figure 6.8: Unmet needs for family planning, by various background characteristics (N=286)

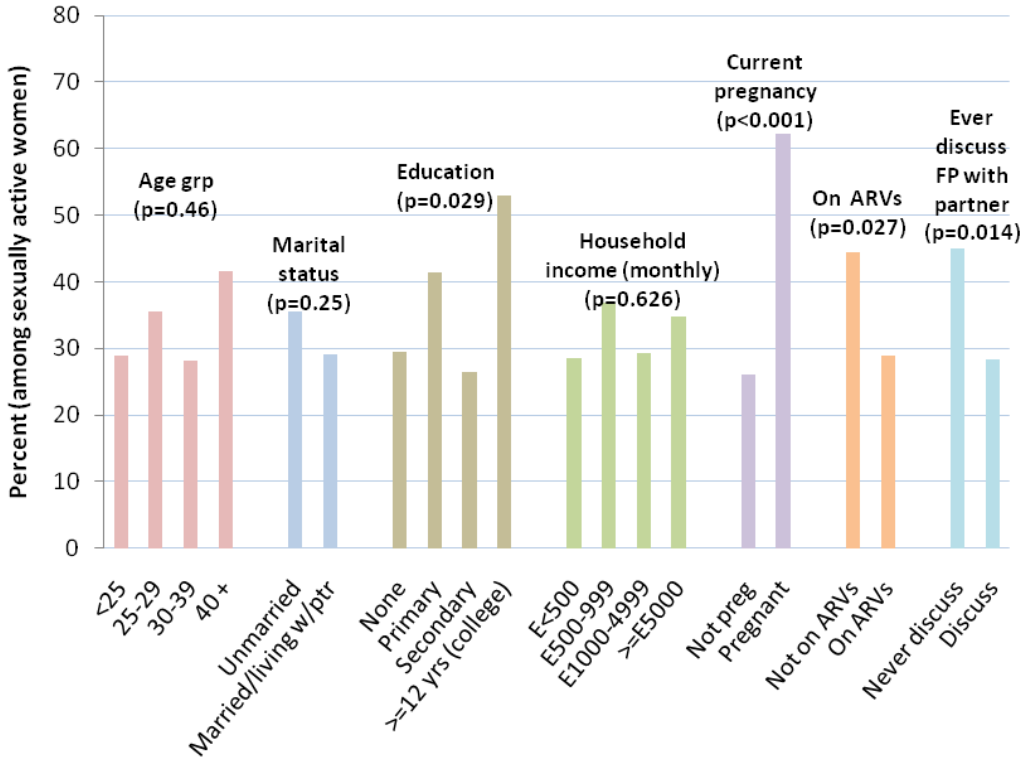
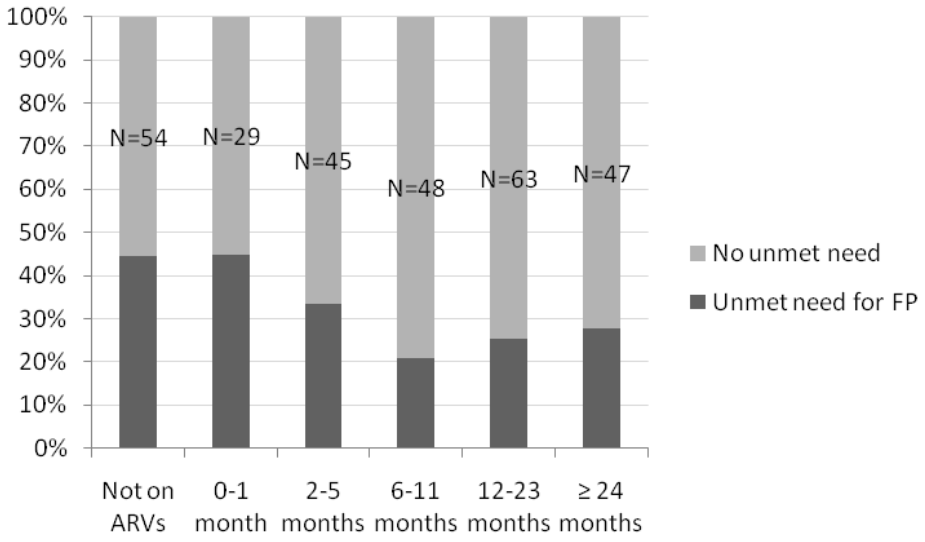


Figure 6.9: Unmet needs for family planning in women by number of months on ART

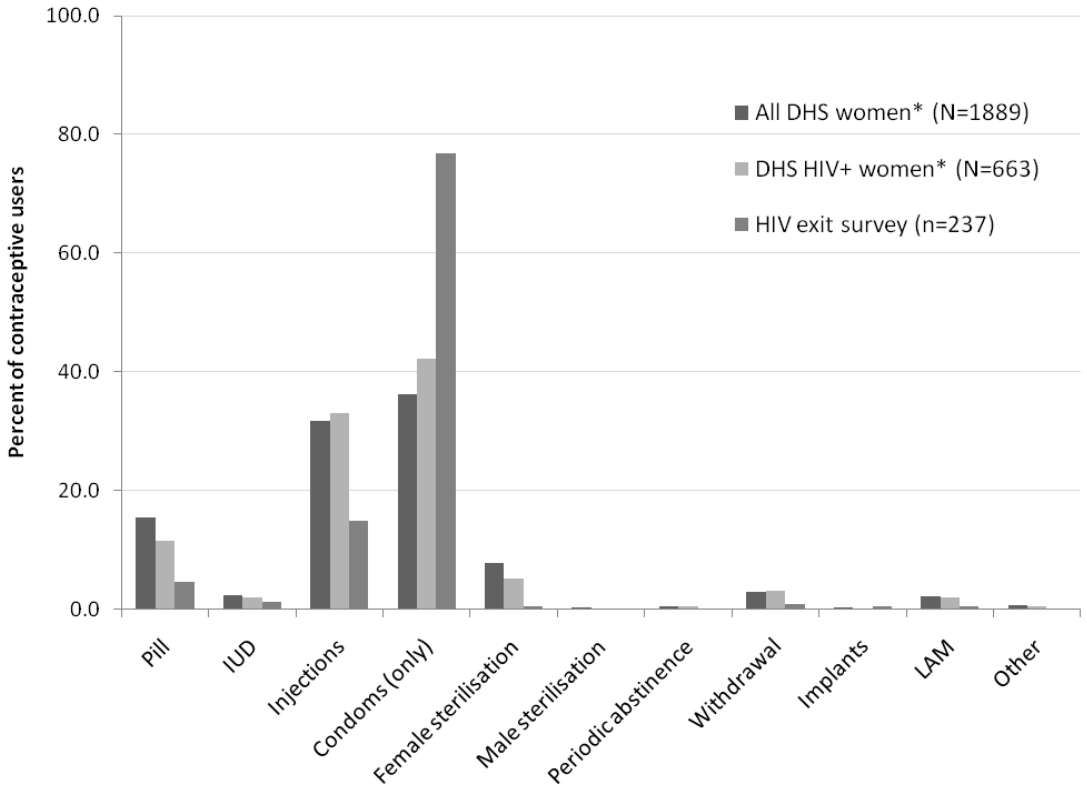


6.2.6 Comparison with national data

Aggregate figures on contraceptive use and unmet need for family planning were also contrasted with national data on unmet need, derived from the Swaziland Demographic and Health Survey (SDHS). Overall, 39% of women and 48% of positive women in the SDHS were using a modern method, which contrasts with 59% in this HCTx population. As can be seen in Figure 6.10, rates of condom use in this population of HCTx clients (77%) are far higher than the general population (36%) or the sub-group of those living with HIV (42%).

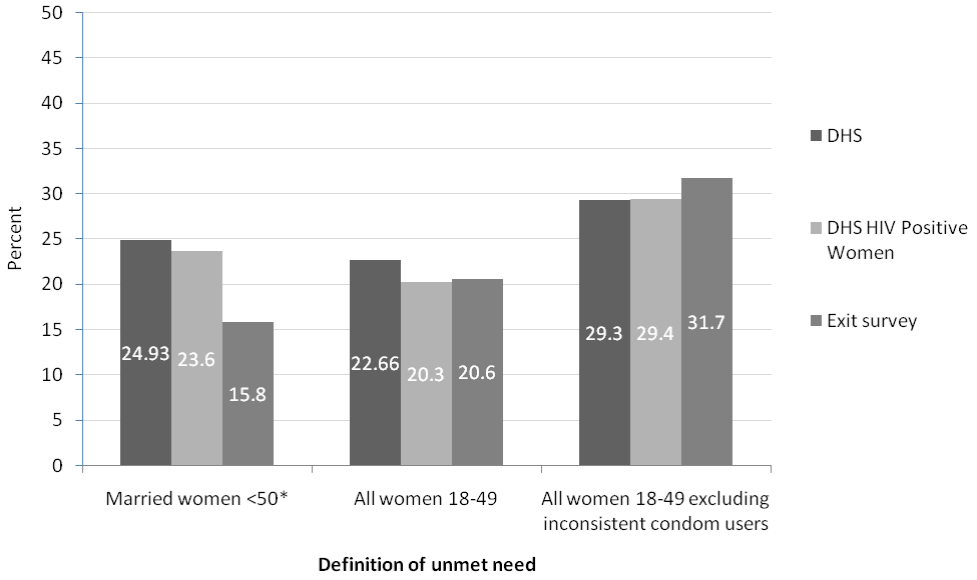
Levels of unmet need were also contrasted with national data. As described earlier on page 137, three different definitions of unmet need were compared across the two surveys (and with the sub-set of HIV positive women in the DHS). When only married women (<50) are included, levels of unmet need in the HCTx population (16%) are markedly lower than the national aggregates (25% and 24% among all and HIV+ respectively). When all women are included, levels of unmet need in the HCTx population (21%) are very similar to the national average of HIV+ women (20%) or all women (23%). And when inconsistent condom users are not counted as having a met need, unmet needs in the HCTx population are slightly greater in the HCTx population (32%) compared to the national populations (both 29%). This highlights the important impact of condom use consistency on unmet need estimates.

Figure 6.10: Contraceptive use among women with HIV in SDHS and HIV clinic exit survey*



* Weighted sample from SDHS (2006-7) of non-pregnant female contraceptive users

Figure 6.11: Rates of unmet need for family planning comparing SDHS and HIV survey, according to differing definitions



6.3 Family planning practices and needs: a qualitative exploration

Qualitative data help to shed light on some of the findings on contraceptive practices and unmet needs presented so far in this chapter. IDIs suggest that family planning needs are influenced by a range of inter-related service-level and social factors.

Condom promotion and use

Firstly, it is clear that the very high condom use rates documented earlier were the result of a programmatic focus on condoms for PLWH. The data suggest that even at integrated clinics, where other contraceptive methods were available on site, condoms were considered imperative for PLWH to prevent reinfection with other viral strains or onwards transmission of the virus, and that as a consequence, they were the contraceptive method of choice for those on treatment. For some providers, therefore, family planning was constituted by the condom:

> *I:…how is family planning discussed now, if I'm an HIV client, I come here, I've had a positive test result – what happens to me?*
>
> *R: okay, so if you are HIV positive and you come here, we highlight on the importance of condom, you see, it's another way of reducing, it's a package of […] adherence, in terms of taking the tablets, so we, we really encourage them to, to use a condom. So a condom, it also forms family planning [Provider, Clinic C, 0304]*

This message on the critical importance of condom use was clearly understood by clients interviewed, who all reiterated the providers' messaging. In some instances, counselling on condoms seemed to be the only advice on family planning received. Moreover, clients often reported inaccuracies (or exaggerations) about the potential risks of not using condoms, which seemed to derive from communications from providers; these included being told that the virus becomes resistant, that you "are killing" your sexual partner, that the efficacy of ARVs is reduced, that failure to use condoms increases the risk of MTCT, and that the virus can become stronger:

> *R: They told me that I must not have sex without a condom*
>
> *I: Did they tell you the reason why?*
>
> *R: They told me that […] when I have sex without a condom the virus gets stronger*
>
> *I: Okay what advice did they give you about family planning [...]?*

> *R: There wasn't any, they just told me not to have sex without a condom because the people that I have sex with, if they don't have HIV, I'll spread it to them and also when I'm taking pills I can reinfect anybody [Female client, Clinic D, 0207]*

As this quote suggests, these communications were also interwoven with more accurate information about the threat of onwards viral transmission and potential reinfection risk. Infection concerns clearly had a preponderance over pregnancy concerns, and thus, in this context, other methods of contraception were considered primarily as a back-up for condoms:

> *they've got to use something else to prevent getting pregnant, besides the condom use, because that one is to prevent the, the reinfection [Provider, Clinic C, 0305]*

Clients, in turn, expressed a notable capacity and willingness to use condoms. A sense of renewed motivation for condom use emerged from the data, derived both from a desire to protect uninfected partners, as well as concerns about personal viral reinfection. A commitment to use condoms was associated with a renewed personal sense of control over health (and life) after starting ART. For many, their "health comes first". Past behaviours of inconsistent condom use were now being replaced by a determination to use condoms at all times:

> *before I started treatment, you would find that [the condoms] ran out and so we would do it without them, but ever since I started treatment I haven't made that mistake […] as I heard that when you're taking the pills and then you sleep with someone without protection you're actually killing that person, and that's what I don't want [Female client, Clinic C, 0303]*

This positive response to condom promotion was even evident among those living in sero-concordant relationships. Despite doubts from his partner, this male client was able to persuade her of the importance of continued condom use, seemingly driven by a belief in the impact of condoms on his own health:

> *R: we're still using condoms even though [my partner] once asked me why we're using them now because we have the same status and I told her that we must use them […]*
>
> *I: and you've never skipped using them?*
>
> *R: it never happened […] I don't know whether I heard it correctly but the nurses said that the virus then becomes resistant when you don't use condoms when you have sex with someone who is also having the virus, so that is why I thought it is better to continue using condoms so that I can live longer*
>
> *[Male client, Clinic C, 0304]*

However, despite the important shift to condom use in this population, concerns remained among both clients and providers about capacity for consistent long-term use. Some clients didn't trust condoms due to breakage concerns; but more importantly, many described difficulties in partner use and compliance. While most problems commonly cited were with men's dislike of condoms, challenges with female partner compliance were also mentioned. A reliance on condoms alone therefore was associated with significant concerns about the risks of both infecting partners and of pregnancy:

> *I:… what's the story now with the condom? You've started arguing about it?*
>
> *R: It's fine really… just that sometimes he'll be like "ah, this condom thing. Let's not use it" and I'll say "no, I'm scared… let's go ahead and use it"*
>
> *I: Why are you scared […]?*
>
> *R: About infecting him… I just tell myself that I've told him countless times and he's fine with it and I've tried over and over again to make him use a condom but he just won't have any of it sometimes… so now I'm just worried about getting pregnant because I don't want another baby*
>
> *[Female client, Clinic A, 0405]*

Thus dual concerns about infection risk and pregnancy were important for many clients.

The capacity to use condoms was also bound up with disclosure to partners and women's vulnerability. Many interviewees were living in unstable informal or polygamous relationships, and providers reported that clients were often unable to disclose, encourage partner testing and/or use condoms due to fears of partner abandonment. There was also a suggestion among two clients that their capacity to promote consistent condom use was also limited when they were unable to disclose their status. However, a partner's failure to get tested (common across the sample), also facilitated condom use for some, as this client suggests:

> *We are using a condom continuously until he gets tested and knows his status. [Female client, Clinic A, 0401]*

One female client even reported "tricking" her partner into contraceptive use in this way. She had six children already and wanted no more, but was being pressured by her new boyfriend to conceive. Since he had not tested, she was able to insist on condom use for infection protection purposes, but could reap the contraceptive benefits at the same time.

Other contraceptives

While most clients seemed to be using condoms primarily for infection rather than pregnancy prevention, there were also those who felt there was little point in considering other contraceptives anyway, as indicated by this man with two wives:

> *I: …Do you know if your wives are using anything else for family planning besides the condom?*
>
> *R: …yes they were using pills but then I think they got used to using the condom alone so now they are too lazy to go and get the pills (laughing) or maybe they think there is no need to go through the trouble because now they know we use condoms all the time*
>
> *[Male client, Clinic D, 0201}*

Thus, in some instances, the switch to condoms led to the cessation of other contraceptives. Many clients reported problems with contraceptive side-effects (usually from pills or injectables), though this was seemingly unrelated to their HIV or ART. Dual method use was even considered futile by some, "extra money and extra effort" as one client put it (0205), and others thought it could exacerbate men's refusal to use condoms, or simply to increased inconsistency with condom use:

> *I don't want to start using contraceptives because then I will be less careful about using condoms […] I can use the injection when there is a need, 'cause my problem is that I don't trust the condom but then again I cannot allow that to happen even if I use the injection, to sleep without the condom [Female, Clinic C, 0303]*

Condom use alone could therefore have certain advantages over dual method use. One client reported liking the method because she did not always stay with her partner.

Cessation of other methods was also tied up with changes in sexual behaviour around the time of ART initiation. Clients described reduced sexual activity, due to either illness, loss of libido and/or amenorrhoea, guilt (from having contracted the virus sexually), advice from providers to avoid sex, or fear of infecting partners who hadn't yet tested or who were sero-discordant. Some clients even reported abstaining from sexual activity altogether after contracting the virus sexually:

> *My heart is just not so happy about the whole sex thing anymore because, I always think about the fact that it's sex that brought me here so… it turns me off completely [Client, Clinic D, 0201]*

As a consequence, the data suggested that some clients may not be receptive to family planning counselling and other SRH messaging at certain times in their treatment programme:

> *even if you tell them they have to start thinking about family planning, it's basically the last of their problems most of the time. They only realize later on when they…so you keep insisting that they go for family planning, but to them it's an extra mile, they are really concerned about getting back to normal, living their lives, so I think that's where we lose most of the contact, [Provider, Clinic D, 0202]*

However, it was clear that sexual activity often resumed following ART initiation and improvement in health status. Many clients reported getting "back to normal" as their CD4 levels increased. Providers noted that rapid improvements in health often left them to be caught unaware:

> *R:... even some of them who have been there using [family planning], they forget about it, but as soon as you put them on treatment, they recover, they go back, and most of them are even caught unaware that they are now fertile.*
>
> *I: Do you think that's one of the most vulnerable times then, when they're getting back onto treatment*
>
> *R: Yes, because everything comes up, even the sexual desire, because they are now feeling better, and even their spouses know that they are gaining weight, they are looking more attractive, they come back to them. So definitely they are vulnerable in terms of that. [Provider, Clinic D, 0201]*

Unintended pregnancies

Most providers reported seeing many clients with unintended pregnancies, and many clients in the IDI sample also reported unwanted pregnancies, though these had occurred prior to initiating ART. The anguish of an unwanted pregnancy was compounded by HIV illness, and particularly distressing when that pregnancy resulted in an HIV-infected infant:

> *I: I mean, having a child like the one you have now…how do you feel?*
>
> *R: it is painful especially because I hadn't expected him, I thought I'd stopped with the one before this one, I hadn't planned for him which is why tears fill my eyes all the time when I think about what will happen with the child, and when I found out that he's HIV positive, it got me thinking, that how are the other children going to take it if they get to know that he's positive…*
>
> *[Female client, Clinic B, 0102]*

Reasons given for these pregnancies included failure to consistently use condoms, "it just happened", or discontinuation of hormonal methods due to problems with side-effects. Many clients were also worried about getting pregnant, influenced by counselling from their providers

on the health risks of pregnancy with low CD4 counts and high viral loads. Many stressed the importance of getting provider permission, or "go-ahead", before deciding to have a child:

> *The doctor said […] that if I want to have a child I can… but I mustn't get pregnant without coming to him to talk about it first [Female client, Clinic D, 0207]*

In fact, there was some evidence to suggest that providers may have overemphasised the risks of MTCT to women to discourage pregnancy. This provider suggested to women that they had both a 50% chance and 1% chance of having a negative baby with PMTCT:

> *we try to tell them that you have to weigh the consequences of getting pregnant because this doesn't mean that the PMTCT will eliminate the chances of the baby coming out negative, it's a 50/50 chance. So maybe what if you fall in that 1% of the people who get a positive baby, so when you do it, you should know that it might come out positive, it might come out negative, even if you do the PMTCT, we are not eliminating, we are just reducing the chance. [Provider, Clinic D, 0203]*

While there is contradictory information on risks in this account to the interviewer, these kinds of loose statements will have been heard by clients. Many described ongoing fears of infecting children leading to decisions to cease childbearing; and this was compounded by fears of their own death and the implication of leaving orphans:

> *I told myself that I won't have any more children because I don't know whether those babies I'll be having will be positive or not. I want to raise my children; I don't want die and leave them behind because in some families you find that HIV positive children get treated very badly [Female Client, Clinic A, 0404]*

There was thus clearly a disconnect between substantial concerns about unintended pregnancy on the one hand, and contraceptive practices on the other.

There were, however, also changing fertility desires over time, and some clients reported renewed desires for childbearing 6 months after initiation. In one male client, this was related to improvements in his health status; but providers felt that societal pressures to have children and/or larger families also led some women to conceive as soon as their status improved:

> *when they come, they always ask "Now, I have HIV/AIDS and I used to be very, very ill, but now I am well, and no-one can see that I'm HIV positive as I'm walking on the road and even my CD4 is now high….Now I need a baby, because I don't have one". You cannot avoid that, that is unavoidable in our life as human beings. [Provider, Clinic D, 0201]*

Men also reported being pressured into certain situations, putting them in situations of vulnerability:

[My girlfriend] said no condom, she wants a child you see, I kept on telling her that we should wait, let's plan we will have a child later. You see you find that you really do not want a child then you find yourself saying let me make her happy, so I put the condom aside [Male client, Clinic D, 0204]

The role of integrated services in meeting needs

As noted above, the modus operandi for SRH counselling in all the clinics was condom promotion, and other methods of contraception and the potential need for dual method use were clearly a lower priority. Nevertheless, integrated clinics seemed to have a greater propensity to promote dual method use than the stand-alone sites, in particular as a strategy for cases of condom failure or inconsistent use. For example, while this client at Clinic A demonstrates both a desire and a fear of using other contraceptives in her first interview (seemingly due to a lack of counselling on contraceptive use with HIV), the nurses' subsequent follow-up resulted in a decision to take up another contraceptive method after her pregnancy:

Round 1 interview:

I:…do you think its fine combining the condom with another form of contraception?

R: Yes the nurse encouraged it so much because she said that in some instance the condom may tear, so just to make sure you safe from pregnancy you can also use the loop [IUD]

I: Do you think it would work for you?

R: yes (laughing) I don't know about my partner though (laughing) although I'm not sure if it's fine to use other contraceptives once you're positive

Round 2 interview:

I: Okay and what about now…after you give birth, do you think you'll continue with the injection?

R: The nurses say it's wise to use both the condom, and another contraceptive…because the condom is not 100% safe, you could get pregnant, or something could happen… so I think I'll go back to it because I was quite happy with the injection, I didn't have any problems

[Female client, Clinic A, 0402]

Although not explicit in the data, it is conceivable that the availability of contraceptives on site may have encouraged the providers at the integrated sites to more actively promote dual method use, or "double family planning", as one called it. Some providers even actively raised awareness among clients of challenges with condoms:

I: okay, but have the doctors or nurses discussed condoms with you again?

R: the nurse asked me if I'm still using condoms with my partner and I told her yes, and she asked what happens when they get finished when you still want to have sex [Female client, Clinic B, 0102]

In a context where many clients faced challenges in long-term condom use, this type of counselling was clearly important, and helps explains the higher rates of dual method use and non-condom contraceptive use documented earlier at Clinic B.

However, the capacity of integrated clinics to move beyond condoms, to deliver contraceptives, and to deliver a continuity approach to changing SRH needs over time was also limited by a range of contextual factors, which are discussed further in Chapter 9. The next chapter will also investigate whether integrated services more effectively led to uptake of SRH services, using quantitative methods.

6.4 Summary & discussion

This chapter has provided a useful baseline from which to compare outcomes and context of integrated services in the subsequent chapters. The main findings from the chapter are now summarised and discussed.

The data presented have clearly demonstrated a heavy reliance among these HIV positive clients on condoms for contraceptive protection. Both the quantitative and qualitative findings have shown that when women enter HIV care, many are either ceasing other long-term contraceptives and switching to condoms, or initiating condom use for infection prevention. This resulted in a very different contraceptive method mix in this population compared to the general population (including PLWH in the general population); oral contraceptives and injectables, in particular, are seemingly being substituted by condoms. While longitudinal research on contraceptive practices of PLWH would be helpful to examine changes over time, findings here suggest that hormonal or other long-term methods are no longer considered important, needed, or appropriate for HCTx clients. As noted in Chapter 2, high proportions of condom users among PLWH and, in particular, those in HCTx settings have been documented in other studies (Andia et al., 2009; Homsy et al., 2009; Akinyemi et al., 2010), including in Swaziland (Johnson et al., 2009). However the extent of condom use alone in this study (77% in women) is much greater than that documented in other studies in HCTx in the region; for example, Kaida and colleagues in Soweto found only 28% of women relying on condoms alone, and higher rates of dual method use (40%, compared to 4% here) (Kaida et al., 2010).

Providers have been shown to play an important role in this switch to or uptake of condoms, and their communications evidently had an important impact on client perceptions and understandings of risk. On the one hand, a high prevalence of condom use is an encouraging trend in terms of 'positive prevention', particularly since many clients do not know their partner's status. Findings indicating that PLWH entering HIV care have a renewed motivation to use condoms consistently, having taken control of their health, have been demonstrated in other components of the Integra Project (Colombini et al., 2011). The fact that consistent condom use was significantly higher among those using condoms for pregnancy prevention than for other use (presumably infection prevention) was also encouraging, highlighting the important motivational factor of contraceptive protection for promoting effective condom use. It was interesting that this was more motivational than perceived partner status. These findings could again be researched further, for example through multivariable analysis methods looking at determinants of consistent condom use.

Despite these positive trends, though, the data have also demonstrated that not all clients can use condoms consistently, and there were high rates of unintended pregnancies as well as important levels of unmet need for family planning. The measure of condom use consistency using an empathetic statement revealed lower rates of consistency than 'condom use at last sex', yet even these reported rates of inconsistency may be under-stated (see below). Therefore, the aggregate unmet needs for family planning reported may also be underestimated due to this reporting bias. While overall rates of unmet need for family planning were actually similar to the general population (when condom use consistency is taken into account in both surveys), one would have hoped that a population in regular contact with health services could be achieving better indicators in this area than others (who include a much larger proportion of the rural population who have poorer access to services). There was also evidence to suggest that providers either do not understand or are deliberately misleading clients on the rationale for condom use. This 'over-emphasis' on condoms and misrepresentations of risk has been found in another qualitative study among HCTx clients in South Africa (Laher et al., 2009), and implies the need to reassess provider training and communication on reinfection. Given the evident distress of an unwanted pregnancy among PLWH who already to struggle to maintain their own health, as well as the potential for family planning to impact on MTCT rates at the population level, there is thus an imperative for services to respond better to the dual risks of infection and pregnancy.

While certain groups of women were at a particular risk of unmet family planning needs, including older women, pregnant women, those not yet on ART, and those who don't discuss family planning with partners, what was most interesting was that unmet needs were actually higher at the two integrated clinics than the stand-alone sites. Given the strong association presented between current pregnancy and unmet needs, these differences may reflect higher proportions of pregnant clients at those sites, and the outcome will be investigated further through a multivariable analysis in the next chapter, controlling for population confounding across the four sites. Nevertheless, considering that the measure of unmet need excluded those who tested positive during a current pregnancy, one could argue that integrated sites should still have been expected to be responding to the family planning needs of these clients. Furthermore, while Clinic B was doing a better job at promoting dual method use than other sites, suggesting an important service function in family planning uptake, overall rates of dual method use were still low, and furthermore did not pertain to integrated Clinic A, implying that service integration alone is not the only explanation.

The data also suggest that a nuanced response to SRH needs may be required in HIV clinics. On one level, many clients did not want more children, or wanted to wait, seemingly influenced by their HIV status, fears of MTCT, the implications of premature death, and a desire to avoid pregnancy in a state of ill-health. However, these needs were also mediated by changes in sexual behaviour as clients initiated treatment, as well as changes in fertility intentions over time. Socio-cultural factors, in particular gender norms, were also found to be important in this chapter, influencing fertility, family planning practices and condom use. The qualitative data have suggested, though, that family planning counselling is focused at ART initiation. This has also been documented in other studies on HCTx clinics in the region (Myer et al., 2007b), and to some extent may be related to an overall preoccupation with treatment initiation care rather than long-term care needs (Schneider et al., 2008). The extent to which services are able to provide more tailored counselling to meet these changing needs and complex social situations will be discussed further in Chapter 9.

It is also important to highlight some of the limitations of these data. Firstly, the data were cross-sectional, limiting a rigorous understanding of any changes in contraceptive use over time, which would have been helpful given clients' changing circumstances as they initiate ART. While the survey attempted to overcome this limitation by asking about past contraceptive use among non-users and current condom users, it would have been particularly useful to know clients' contraceptive behaviour prior to testing HIV positive, and prior to initiating ART. Furthermore,

social desirability bias surrounding measures of condom use was probably high in this context where all clients are strongly urged by providers to use condoms. This seemed particularly strong among men using the indicator of condom use at last sex. The qualitative data, having the advantage of repeated questioning and rapport with clients, did suggest that many clients do struggle to use them consistently, even after initially stating they could.

While this chapter has provided an important contextual background to the potential role of integrated SRH-HIV services in Manzini, simple comparisons in family planning use and behaviour across clinics are not sufficient to tell us anything about the effectiveness of integrated care. The next chapter, will now examine access to SRH services, and whether integrated service models are associated with greater service uptake, and ultimately lower unmet needs for family, than stand-alone sites.

Summary of main findings (Chapter 6):

- Most HCTx clients either used no method of contraception or relied on condoms alone; very few clients practised dual method use. These patterns were very different to the general population of PLWH, where condoms were less predominant.
- Condom consistency was low, but it was higher among those using condoms for contraception rather than infection prevention. However, reports of condom use may still be over-estimated due to reporting bias, and consequently, unmet needs may also be under-estimated.
- Unintended pregnancies were common, and unmet needs for family planning (taking fertility desires into account) were similar to the general population of PLWH. Unmet needs varied across different population characteristics, being highest in older women, those with tertiary education, those not on ARVs, those currently pregnant, and those with poor partner communication.
- While clients at Clinic B, an integrated site, were most likely to use hormonal contraception, unmet needs were also highest at the two integrated sites. This may reflect greater need among clients at those sites, since qualitative data suggest that dual protection and dual method use is emphasised more at integrated sites.
- Clients are heavily influenced by their providers when switching to or taking up condoms. Providers, and in turn clients, have a strong fear of onwards viral transmission and reinfection, and this seems to outweigh pregnancy concerns. Dual method use also appeared problematic or even futile for some.
- Family planning counselling is also focused at ART initiation, a time when client sexual desires are low and needs are low, and may reflect a clinical focus of HCTx care at initiation over long-term chronic care.

7. SRH service uptake

Introduction

This chapter investigates access to and use of SRH services across the four models of care using quantitative survey data. The focus is on use of SRH services since testing HIV positive, and gaps in service provision. As with the previous chapter, it has a specific focus on family planning services.

As Chapter 2 has discussed, integrated services can increase access to and use of individual service components through the co-location of services (either the in same room or building) and through the removal of the need for referrals which clients may not take up. Gaps in service provision and missed opportunities within integrated sites continue to be documented in multiple settings, however, suggesting that reorganising care in an integrated way may not always achieve desired outcomes. Furthermore, Chapter 5 has found that at least one of the integrated sites in this study may not be as integrated as originally suggested, and that even stand-alone sites may be providing basic SRH care. While data on service use on the day of the survey presented in Chapter 5 suggest that SRH service use within HCTx settings is very limited, this chapter looks at service use over a longer period (since testing HIV positive), in order to investigate the differences between sites.

The first section of this chapter examines the SRH services that clients used since testing HIV positive. It starts with a descriptive overview of the SRH services accessed, including when and where they were accessed, and who instigated the service provision (client or provider). It then presents data on missed opportunities for delivering SRH services, by investigating the additional services that clients would have liked to receive during their visit to the clinic. The associations between clinic model and use of three core family planning services are then analysed using logistic regression models, as well as the association between clinic model and unmet needs for family planning.

7.1 Methods & measures

The chapter includes descriptive statistics on service use and missed opportunities for desired services. Differences across clinic are tested statistically using the $\chi 2$ test for categorical

variables, and analysis of variance for continuous variables. Logistic regression modelling was used to test the association between clinic model and the following binary outcomes:

- Received family planning counselling (Women only)
- Received condom counselling (All clients)
- Received pregnancy counselling (Women only)
- Unmet need for family planning (Women only)

Prior to construction of the final models, the crude association between baseline factors and outcomes were tabulated to produce crude odds ratios (cORs). Bivariate analyses using Mantel-Haenszel methods were then conducted, with association between clinic and outcome stratified by various potentially interacting variables (see Figure 4.2 on page 89). Logistic regression was used to estimate the adjusted odds ratios (aORs) and 95% confidence intervals (95%CI) for associations between the four outcome variables and explanatory factors. As discussed in Chapter 4, the multivariable analysis used in this chapter is an 'all variable' approach, with all conceptually potential confounders included in the model. Where necessary, the likelihood ratio test was used to statistically test for interaction. Statistically significant associations in the multivariable analysis are highlighted with grey shading in the tables.

Many of the measures included in this chapter were developed specifically for this survey, since few pre-validated tools examining the extent of service integration were identified. Two of these measures warrant further discussion.

Service use

To measure use of SRH services, clients were asked if they had received specific services since testing HIV positive; where they had received this service, when it was received, and who instigated the service (client or provider). The service definitions explained to clients are shown in Table 7.1. However, for the indicators of receipt of STI and PMTCT services, different denominators and measures were used. Since access to STI management services is indicated only for those with a diagnosed STI (either syndromically or clinically), clients who reported ≥1 STI symptom in the past month (N=272) were asked if they had ever discussed this symptom with a provider.[38] For measuring access to PMTCT, any client who had ever been pregnant since

[38] Actual treatment access was not measured since clients and interviewers were not in a position to judge whether an appropriate treatment had been given.

their diagnosis was asked if they had accessed PMTCT services during their last pregnancy (those currently pregnant were excluded from the denominator).

Table 7.1: SRH service access measures

SRH Service access measure	Description for clients: Did you receive:
Family planning counselling	Advice about family planning (no method provision)
Family planning method provision	Family planning method provision (other than condoms)
Pregnancy counselling	Advice about getting pregnant with HIV or planning your family
Condom counselling	Counselling on condom use
Condom provision	Provision of condoms
Sexual health counselling	Advice about sexual health (e.g. sexual desires, erection/libido problems)
Sexual health screening	Counselling/questioning about your sexual relationships and behaviours (e.g. how many partners you have, the HIV status of your partner)
Pap smear	Pap smear (pelvic exam with swab/sample sent away for testing)[39]
STI management	Discussed STI symptom with a provider
PMTCT	Received prevention of mother-to-child transmission (PMTCT) services during last pregnancy

Missed opportunities

In order to measure the effectiveness of integration, it is also useful to look at the missed opportunities for delivering SRH services. To measure this dimension, respondents were read a list of nine SRH and HIV-related services, and asked whether they would have liked more information for each of these services during their visit today. Previous studies have suggested that this is a useful way to gauge potential missed opportunities for care within integration studies (Maharaj, 2003).

[39] Interviewers instructed to explain meaning if description not clear.

7.2 Use of SRH services

7.2.1 Description of service use

Table 7.2 shows the number and proportion of clients who accessed a range of different SRH services since testing HIV positive. Use of SRH services varied across clinic, except for the receipt of advice on sexual health (p=0.447) which remained low (under 16%) across all sites.

Looking first at family planning and other reproductive health services for women, overall 58% of women had received family planning counselling since testing positive. The highest proportion receiving advice was among those at Clinic B (73%), while the lowest proportion was among those at Clinic D (41%). Access to contraceptive *method provision*, was lower overall (34%), but this was highest at Clinic A (43%) and lowest at Clinic C (20%).

Table 7.2: Receipt of SRH services since testing HIV positive

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value (χ^2)
Receipt of service since positive HIV test (among women):						
FP advice	55.6 (30)	72.9 (105)	60.2 (80)	40.7 (59)	57.6 (274)	<0.001
FP method provision	42.6 (23)	38.2 (55)	19.6 (26)	39.3 (57)	33.8 (161)	0.001
Pap smear	35.2 (19)	10.4 (15)	13.5 (18)	10.3 (15)	14.1 (67)	<0.001
Advice on getting pregnant	40.7 (22)	30.6 (44)	29.3 (39)	51.7 (75)	37.8 (180)	<0.001
Total no. women:	**54**	**144**	**133**	**145**	**476**	
Receipt of service since positive HIV test (among all clients):						
Counseling on condom use	76.1 (54)	78.1 (128)	94.9 (169)	86.8 (165)	85.6 (516)	<0.001
Provision of condoms	40.9 (29)	38.4 (63)	55.6 (99)	77.4 (147)	56.1 (338)	<0.001
Advice on sexual health	15.5 (11)	12.2 (20)	15.7 (28)	10.5 (20)	13.1 (79)	0.447
Sexual health screening	45.1 (32)	56.7 (93)	75.8 (135)	41.6 (79)	56.2 (339)	<0.001
Total no. clients:	**71**	**164**	**178**	**190**	**603**	
PMTCT access:						
Received PMTCT service	76.9 (10)	94.3 (50)	75.0 (24)	54.5 (6)	82.6 (90)	0.005
Total no. women reporting pregnancy since testing positive *	**13**	**53**	**32**	**11**	**109**	
STI access:						
Discussed STI symptom with provider	71.4 (15)	64.4 (56)	54.4 (31)	73.8 (79)	66.5 (181)	0.08
Total no. clients reporting ≥1 STI symptom in past month	**21**	**87**	**57**	**107**	**272**	

* Excludes those who tested positive during a current pregnancy

Only 14% of women had received a pap smear since testing positive, although service provision was higher than average at Clinic A, where 35% of women had received this test. Pregnancy counselling (advice on how/when to get pregnant) was more widely accessed, with 38% of women receiving the service. This proportion was highest at Clinic D (52%) and lowest at Clinic C (29%).

Among all clients, male and female, counselling on condom use was widely accessed, received by 86% of all clients. This even reached up to 95% of clients in Clinic C. This contrasts with the actual provision of condoms, which were received by only 56% of respondents, falling as low as 38% in Clinic B. Over half of respondents had received sexual health screening (56%), though again variations were observed across site. Clients at Clinic C were most likely to have received screening (76%), in contrast with only 42% of clients at Clinic D. A much lower proportion (13%) had received sexual health counselling, which was consistently low across clinic models.

Among clients who reported at least one STI symptom[40] (48% of women and 39% of men), 67% had discussed the symptom with a provider. There was weak evidence of variation across model (p=0.08), with the proportion discussing symptoms reaching up to 74% in Clinic D, compared to 54% in Clinic C. Among women who reported a pregnancy since testing positive (N=109, excluding those who tested positive during a current pregnancy), 83% had received PMTCT advice. The proportion was highest at Clinic B (94%) and lowest at Clinic D (55%).

Table 7.3 shows the mean number of generic SRH services accessed since testing positive (i.e. services that all clients should theoretically be receiving; this excludes services dependent on need, such as contraceptive method provision or STI counselling/treatment). The mean number of services accessed by women was 3.33 (SD 1.5), and by men was 2.38 (SD 1.0) out of a possible 7 or 4 services respectively. There is evidence that these figures varied by clinic (p=0.001 for females, and p=0.002 for males), with the average highest at Clinic C for women, and at both C and D for men.

[40] In total, 231 women reported at least one symptom from a list of: abnormal vaginal discharge; lower abdominal pain ; or ulcers, sores, blisters or lumps in genital or groin area. And 41 men reported at least one symptom from a list of: abnormal penile discharge or pain while urinating; ulcers, sores, blisters or lumps in genital or groin area.

Table 7.3: Mean no. SRH services accessed since positive test (by sex)

Variable	Clinic A Mean (SD)	Clinic B Mean (SD)	Clinic C Mean (SD)	Clinic D Mean (SD)	All clinics Mean (SD)	F stat (P value)
No. generic SRH services accessed since positive HIV test (female) (N=482)*	3.00 (1.6)	3.38 (1.5)	3.71 (1.4)	3.04 (1.6)	3.33 (1.5)	5.42 (0.001)
No. generic SRH services accessed since pos test (male) (N=129)†	2.47 (1.0)	1.60 (1.1)	2.53 (1.0)	2.53 (0.8)	2.38 (1.0)	5.38 (0.002)

* Out of total of 7 female-focused services: FP advice, pap smear, counseling on condom use, provision of condoms, advice on sexual health, sexual health screening, advice on getting pregnant

†Out of total of 4 male-focused services: counseling on condom use, provision of condoms, advice on sexual health, sexual health screening

7.2.2 Location of SRH services

Figure 7.1 shows the location of SRH services received since testing positive (firstly aggregated for all SRH services, and then separately by service).[41] Overall 84% of these services were received in the year preceding the interview, and 46% were within the past month.

For all SRH services aggregated, on average 50% of clients who received SRH services did so in the same room as their HIV services. However, there were important differences by clinic and by service type, reflecting the differing models of care. While a majority of clients at Clinics A, C and D received SRH services in the same room (70%, 56% and 61% respectively), only 28% did at Clinic B, and instead a much larger proportion (58%) were referred internally there. Overall, very few clients (3%) were referred to another building in the same facility, which is particularly surprising for Clinic C where referral to other hospital units is possible; and 10% of clients received an SRH service in another facility, a shop or workplace. However, it is important to remember that these data are for those who accessed SRH care, and thus the extent of actual internal or external referrals that were not taken up is unknown. Data presented in Chapter 5 on referrals given on the day of the survey (for any service) demonstrated that referrals were limited, and a third of those who were referred did not attend the service.

[41] In the PDA software for this indicator, unfortunately some clients had a location classed as 'condocan' (condom canister), which should have only been allocated for the indicator 'who provided SRH care': the location of the condocan is unknown; thus these 181 respondents (all for 'condom provision') were classified as missing.

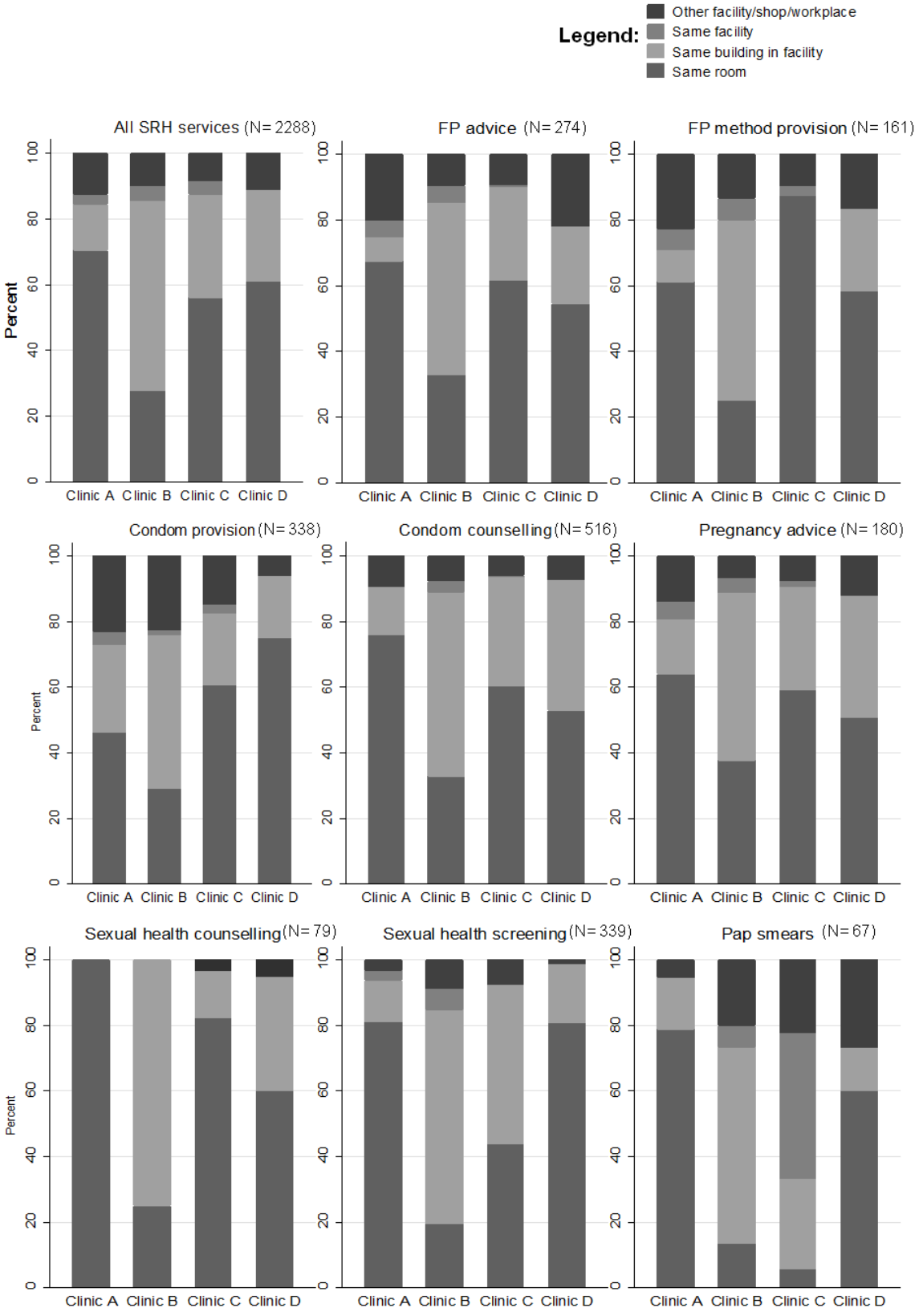
Patterns for individual SRH services generally follow the aggregate variable with the majority of clients being seen in the same room or in the same facility. Looking first at Clinic A, the most integrated site, it is clear that not ALL clients received SRH services in their HIV room, as they were theoretically supposed to do. For example, 39% of clients did not receive family planning methods and 32% did not receive family planning advice in the same room. This adds further weight to evidence to findings from Chapter 5 that Clinic A is in fact only partially integrated. Services most likely to be given in the HIV room at Clinic A were sexual health counselling (100%) (although the sample size was very small (N=11)), sexual health screening (81%), and pap smears (79%).

At Clinic B, while most services were delivered in a separate room, some counselling services were received with the HIV provider, including pregnancy advice (38%), family planning advice (33%) and condom counselling (33%).

At Clinic C, a high proportion (88%) reported receiving contraceptive method provision in the same room as HIV services, likely due to the high number of condom users at this site (see Chapter 6). As one might have expected, higher proportions were also referred to other buildings at this site for clinical services, up to 44% for pap smears, 43% for pelvic/genital examinations (although overall numbers for these services are very small).

At Clinic D, there were no referrals to other buildings (as expected), but quite a substantial amount of internal referral, in particular for pregnancy advice (37%), condom counselling (40%) and sexual health counselling (35%). This may reflect the provision of these services by the adherence counsellor, and again underline a degree of service fragmentation within HIV care itself. Few clients accessed SRH externally at other sites (10% overall); most external access was for pelvic exams and pap smears, though numbers were very small.

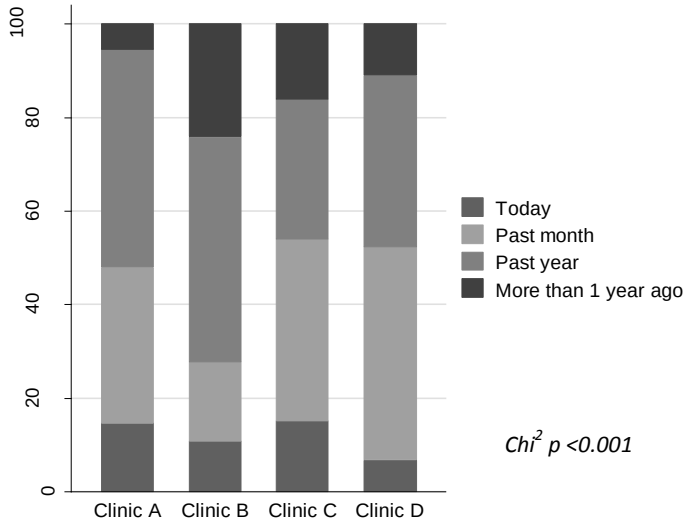
Figure 7.1: Location of SRH services, by SRH service and by clinic



7.2.3 When SRH services were received

Figure 7.2 displays data on the timing of receiving SRH services (all services aggregated). Rates are similar across clinic, though a larger group of clients at Clinic B received their services over a year ago (24%, vs 16% on average). Overall, 46% of services were received either within the past month or on the day of interview, 39% were received in the last year, and 16% of services were received more than one year ago.

Figure 7.2: When were SRH services received (ALL services), by clinic



7.2.1 Driver of integration

For each SRH service received, clients were asked "Did you ask about this service, or did the provider offer it to you first?" Figure 7.3 clearly shows that in most cases (90%) providers offered SRH services, and in very few did the client demand the additional care. Clients at Clinic D were least likely to have demanded SRH care (3%), which may either have been because providers were better at asking it, or because clients felt less able to ask for it.

However, when these results are broken down by service, some interesting differences emerge. As shown in Table 7.4 , higher proportions of clients requested pap smears, family planning methods and condoms than other SRH services (versus providers offering them). While the sample sizes are low for some services, there seem to be important differences across clinics. For condom provision, while around half of clients at Clinics A to C requested condoms, at Clinic D only 3% had to ask, the rest were offered them. Lower proportions at Clinic A and D asked for

contraceptive method provision (6.5% and 6% respectively) compared to Clinics B and C (25% and 15% respectively).

Figure 7.3: Driver of integration (ALL services), by clinic

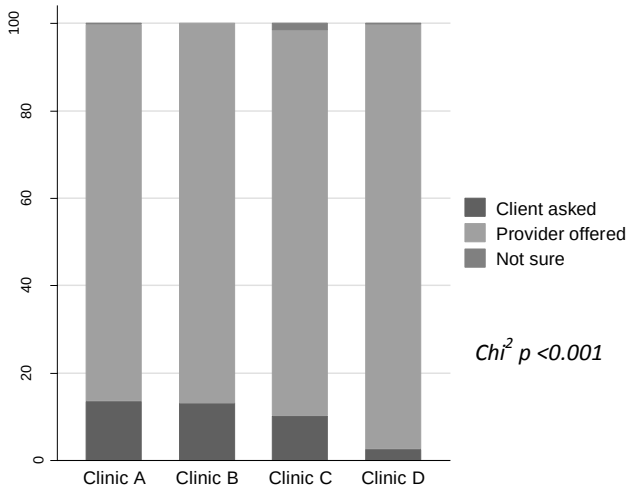


Table 7.4: Among clients who accessed service since testing positive, % who asked for the service

% service contacts where clients asked for service (vs provider offer or not sure)	Clinic A %	Clinic B %	Clinic C %	Clinic D %	All clinics % (n)	P value (Fisher's exact test)
Condom counselling	0.0	4.7	1.2	0.6	1.7 (9)	0.068
Condom provision	55.2	47.6	43.4	3.4	27.8 (94)	<0.001
Family planning counselling	7.5	9.5	0.0	0.0	4.1 (14)	<0.001
Family planning method provision	6.5	25.0	15.6	6.0	13.7 (26)	0.011
Pap smear	26.3	6.7	44.4	13.3	23.9 (16)	0.062
Pregnancy counselling	2.8	10.1	1.7	1.2	4.4 (15)	<0.001
Advice on sexual health	9.1	10.0	0.0	5.0	5.1 (4)	0.304
Sexual health screening	3.1	2.2	0.7	0.0	1.2 (4)	0.32

7.2.2 Missed opportunities for SRH service provision

Table 7.5 shows the average number of additional services desired by clients, and the proportions who desired each individual service. Figure 7.4 displays information on this 'latent demand' by clinic model. As noted earlier, clients were read out the list of potential services.

Most clients would have liked to receive more information on a range of different health topics. The most desired additional services were actually not related to SRH but to HIV itself. 70% of clients desired more information on TB, and 62% on ART. Family planning was the fourth most desired service, with 36% of clients wanting more information. This figure varied across clinics,

being lowest in Clinic D (19%), where unmet needs for family planning were also lowest (see Chapter 6), reaching up to 47% at Clinic C. Other widely desired SRH services were STI services (48% clients), counselling on sexual functioning/libido (31%) and counselling on how/when to get pregnant (29%).

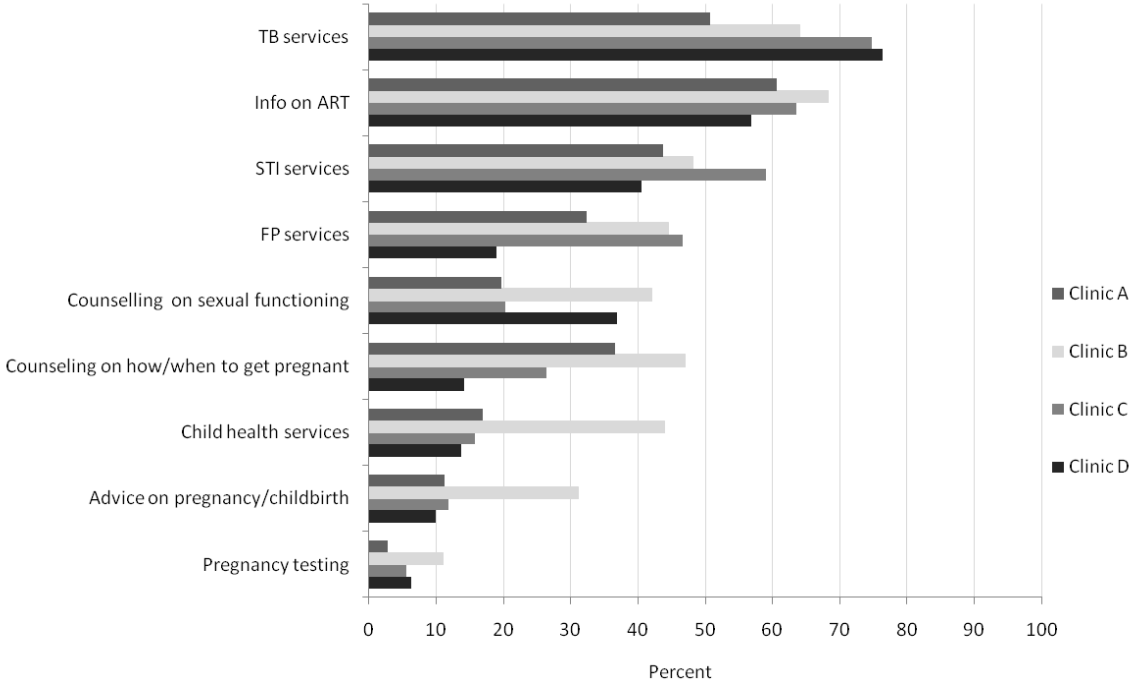
Table 7.5: Desired additional services, by clinic

Variable	Clinic A % (N)	Clinic B % (N)	Clinic C % (N)	Clinic D % (N)	All clinics % (N)	P value (χ^2)
Clients who would have liked to receive:						
No more services	15.5 (11)	11.0 (18)	11.2 (20)	19.0 (36)	14.1 (85)	<0.001
1-2 additional services	32.4 (23)	24.4 (40)	32.0 (57)	23.2 (44)	27.2 (164)	
3-4 additional services	31.0 (22)	23.8 (39)	32.0 (57)	41.6 (79)	32.7 (197)	
≥ 5 additional services	21.1 (15)	40.9 (67)	24.7 (44)	16.3 (31)	26.0 (157)	
Mean additional number of services desired (mean (SD))	2.7 (2.1)	4.0 (2.8)	3.2 (2.2)	2.7 (1.9)	3.2 (2.4)	10.08 (<0.001)*
Clients who would have liked to receive:						
TB services	50.7 (36)	64.0 (105)	74.7 (133)	76.3 (145)	69.5 (419)	<0.001
Info on ART	60.6 (43)	68.3 (112)	63.5 (113)	56.8 (108)	62.4 (376)	0.163
STI services	43.7 (31)	48.2 (79)	59.0 (105)	40.5 (77)	48.4 (292)	0.004
FP services	32.4 (23)	44.5 (73)	46.6 (83)	19.0 (36)	35.7 (215)	<0.001
Counselling on sexual functioning	19.7 (14)	42.1 (69)	20.2 (36)	36.8 (70)	31.3 (189)	<0.001
Counseling on how/when to get pregnant	36.6 (26)	47.0 (77)	26.4 (47)	14.2 (27)	29.4 (177)	<0.001
Child health services	16.9 (12)	43.9 (72)	15.7 (28)	13.7 (26)	22.9 (138)	<0.001
Advice on pregnancy/childbirth	11.3 (8)	31.1 (51)	11.8 (21)	10.0 (19)	16.4 (99)	<0.001
Pregnancy testing	2.8 (2)	11.0 (18)	5.6 (10)	6.3 (12)	7.0 (42)	0.087
Total no. clients	**71**	**164**	**178**	**190**	**603**	

*Anova F Statistic (p value)

Overall, the mean number of desired additional services was highest in Clinic B (4.0, vs the average of 3.2). Clients at this site had a much greater demand for counselling on sexual functioning, counselling on how/when to get pregnant, child health services, and advice on pregnancy/childbirth than other sites. Clinics A and D had the lowest mean number of desired services (2.7). There were also an important proportion of clients who desired many services, with just over a quarter of the sample (26%) desiring five or more services. The proportion desiring five or more services was highest at Clinic B (41%) and lowest at Clinic D (16%).

Figure 7.4: Services that clients would have liked to receive today (% all clients)



7.3 Association between clinic model and receipt of family planning services

This section examines the association between clinic model and receipt of family planning services, adjusting for baseline differences in the client populations at each clinic. The hypotheses tested are that integrated models of care are associated with increased use of the following services, compared to stand-alone models:

1. family planning counselling (WOMEN ONLY)
2. provision of condoms (ALL CLIENTS)
3. pregnancy counselling (WOMEN ONLY) (advice on how/when to get pregnant)

An outcome analysis was not conducted on family planning method provision, since this is not a universally required service (i.e. only relevant for those wanting contraception). An outcome analysis on unmet needs for planning was conducted, however (see section 7.4). Counselling on condom use was not considered as an outcome because 86% of the sample had received this service. Hypothesis testing was conducted using logistic regression modelling. Each outcome is analysed in turn. Figure 7.5 on page 188 displays summary adjusted odds ratios for these outcomes.

7.3.1 Receipt of family planning counselling (women only)

Table 7.6 shows both the crude and adjusted analysis of the association between clinic model and access to family planning counselling since testing HIV positive (in women). In the crude analysis, clients at Clinics A, B and C all had increased odds of accessing family planning counselling compared to baseline Clinic D (cOR 1.82, 95%CI 0.97-3.42; cOR 3.92, 95%CI 2.39-6.44; cOR 2.20, 95%CI 1.36-3.56 respectively). Other factors associated with family planning counselling access in the crude analysis ($p<0.1$) were older age, average household income, number of sex partners, number of living children, age of youngest child, discussed FP with partner, user type, time enrolled at clinic, and CD4 count.

A stratified analysis of association between clinic model and access to family planning showed little evidence for effect modification among most baseline covariates on the relationship between clinic and family planning counselling. There was, however, evidence that being on ART modified the effect of clinic on family planning service uptake, with those at Clinics A, B and C having no statistical difference in odds of getting family planning counselling when NOT on ART compared to D, while those ON ART had much greater odds of having received it at these clinics ($p<0.05$ comparing Clinic A to D, and B to D) (see Appendix 10). Although a likelihood ratio test conducted on the full multivariable model showed statistical evidence for interaction ($p=0.028$), the total sample size for those not on ART was very low at Clinics A, C and D (N=18, 12, 15 respectively), and confidence intervals for the two strata were overlapping. It was therefore determined inappropriate to include an interaction term in the final model and stratify on ART status.

In the final model from the multivariable analysis, also shown in Table 7.6, the adjusted odds of accessing family planning counselling are higher at Clinics A-C compared to baseline D (although with weak evidence at Clinic A) (aOR 2.09, 95%CI 0.92-4.75; aOR 6.58, 95%CI 3.23-13.43 and aOR 2.75, 95%CI 1.51-5.00 respectively). The main negative confounders at Clinic A were current pregnancy, age of youngest child and time enrolled at clinic; at Clinic B were current pregnancy, client type, taking ART, and time enrolled. At Clinic C, several factors had small but important effects on the crude odds ratios, which were education, average monthly income, distance from clinic, current pregnancy, number of living children, discuss family planning with partner, client type, CD4 count and TB status.

Table 7.6: Crude and adjusted analysis of association between clinic model and receipt of family planning counselling (women only, N=476)

Variable	Category	N	Got FP couns. % (n)	cOR	95%CI	aOR*	95%CI
Clinic model	Clinic A	(54)	55.6 (30)	1.82	(0.97 - 3.42)	2.09	(0.92 - 4.75)
	Clinic B	(144)	72.9 (105)	3.92	(2.39 - 6.44)	6.58	(3.23 - 13.43)
	Clinic C	(133)	60.2 (80)	2.20	(1.36 - 3.56)	2.75	(1.51 - 5.00)
	Clinic D	(145)	40.7 (59)	1.00		1.00	
Age group	Less than 25	(94)	58.5 (55)	0.93	(0.56 - 1.56)	0.91	(0.45 - 1.83)
	25-29	(128)	59.4 (76)	0.96	(0.60 - 1.54)	0.96	(0.54 - 1.72)
	30-39	(166)	60.2 (100)	1.00		1.00	
	40 or over	(88)	48.9 (43)	0.63	(0.37 - 1.06)	1.16	(0.56 - 2.38)
Marital status	Unmarried	(249)	54.2 (135)	1.33	(0.93 - 1.92)	1.15	(0.72 - 1.85)
	Married or living with	(227)	61.2 (139)	1.00		1.00	
Education	None	(32)	50.0 (16)	0.71	(0.34 - 1.48)	0.61	(0.25 - 1.48)
	0-7 yrs (primary)	(129)	55.8 (72)	0.90	(0.59 - 1.37)	0.81	(0.48 - 1.37)
	8-12 yrs (secondary)	(288)	58.3 (168)	1.00		1.00	
	>=12 yrs (college)	(27)	66.7 (18)	1.43	(0.62 - 3.29)	2.41	(0.83 - 6.97)
Average monthly income	E<500	(169)	52.7 (89)	1.00		1.17	(0.66 - 2.08)
	E500-999	(128)	62.5 (80)	1.50	(0.94 - 2.39)	1.28	(0.72 - 2.25)
	E1000-4999	(149)	61.7 (92)	1.45	(0.93 - 2.27)	1.00	
	>=E5000	(30)	43.3 (13)	0.69	(0.31 - 1.50)	0.57	(0.20 - 1.64)
Distance from clinic (time)	0-39 mins	(292)	36.3 (106)	1.00		1.00	
	31-60 mins	(202)	21.3 (43)	0.99	(0.66 - 1.49)	1.05	(0.65 - 1.71)
	>1 hr	(117)	35.0 (41)	1.43	(0.87 - 2.35)	1.72	(0.96 - 3.09)
Current pregnancy	No	(389)	58.1 (226)	1.00		1.00	
	Yes	(87)	55.2 (48)	0.89	(0.56 - 1.42)	0.67	(0.33 - 1.36)
Sexual partnerships	No sex partners	(81)	46.9 (38)	0.61	(0.38 - 1.00)	1.06	(0.53 - 2.10)
	1 sex partner	(351)	59.0 (207)	1.00		1.00	
	2-3 sex partners	(39)	64.1 (25)	1.24	(0.62 - 2.47)	1.13	(0.51 - 2.55)
	>=4 sex partners	(5)	80.0 (4)	2.78	(0.31 - 25.15)	3.00	(0.24 - 36.94)
No. living children	No children	(75)	46.7 (35)	0.55	(0.33 - 0.93)	0.62	(0.33 - 1.18)
	1-2 children	(245)	61.2 (150)	1.00		1.00	
	3-4 children	(107)	61.7 (66)	1.02	(0.64 - 1.63)	0.90	(0.50 - 1.63)
	5 or more children	(49)	46.9 (23)	0.56	(0.30 - 1.04)	0.54	(0.23 - 1.29)
Age of youngest child	<=2 years	(112)	70.5 (79)	2.07	(1.32 - 3.27)	1.12	(0.60 - 2.09)
	Over 2 years	(364)	53.6 (195)	1.00		1.00	
Death of child	No	(317)	57.1 (181)	1.00		1.00	
	Yes	(159)	58.5 (93)	1.06	(0.72 - 1.56)	1.15	(0.72 - 1.85)
FP discuss with partner	No	(192)	54.7 (105)	0.61	(0.42 - 0.88)	0.64	(0.38 - 1.07)
	Yes	(283)	68.2 (193)	1.00		1.00	
Fertility desires	No more or unable	(325)	59.7 (194)	1.00		1.00	
	Unsure or wants more	(151)	53.0 (80)	0.76	(0.52 - 1.12)	0.63	(0.37 - 1.05)
Client type	Pre-ART	(55)	56.4 (31)	0.85	(0.48 - 1.53)	1.36	(0.35 - 5.29)
	ART initiation	(23)	73.9 (17)	1.87	(0.72 - 4.89)	2.44	(0.64 - 9.35)
	ART refill	(304)	60.2 (183)	1.00		1.00	
	ART user consult	(54)	35.2 (19)	0.36	(0.20 - 0.66)	0.32	(0.16 - 0.64)
	PMTCT/Infant HIV	(40)	60.0 (24)	0.99	(0.51 - 1.94)	0.76	(0.22 - 2.70)
Taking ART	Not on ART	(94)	57.4 (54)	0.99	(0.63 - 1.57)	0.56	(0.17 - 1.80)
	On ART	(382)	57.6 (220)	1.00		1.00	
Time enrolled at clinic	<6 months	(176)	49.4 (87)	0.68	(0.45 - 1.02)	0.56	(0.33 - 0.92)
	6 months - 2 years	(207)	58.9 (122)	1.00		1.00	
	> 2 years	(93)	69.9 (65)	1.62	(0.96 - 2.73)	1.39	(0.73 - 2.66)
CD4 count	<50	(27)	48.1 (13)	0.59	(0.27 - 1.29)	1.06	(0.42 - 2.66)
	51-200	(137)	52.6 (72)	0.70	(0.47 - 1.05)	0.81	(0.50 - 1.32)
	>200	(297)	61.3 (182)	1.00		1.00	
	No count	(15)	46.7 (7)	0.55	(0.20 - 1.57)	0.65	(0.20 - 2.08)
On TB treatment	No	(459)	58.4 (268)	1.00		1.00	
	Yes	(17)	35.3 (6)	0.39	(0.14 - 1.07)	0.45	(0.15 - 1.41)

*Adjusted for all other variables in table; significant associations (p<0.05) highlighted

The multivariable analysis also sheds light on other determinants of access to family planning counselling. Those attending for an ART user consultation had much lower odds of accessing family planning counselling than those attending for ART refills (aOR 0.32, 95%CI 0.16-0.64). Those enrolled less time at the clinic also had reduced odds of receiving family planning counselling than those enrolled longer (aOR 0.56, 95%CI 0.33-0.92), though there was no difference between those enrolled 6 months-2 years, and >2 years. Those wanting more children (or unsure) (i.e. without need for family planning) also had reduced odds of receiving family planning counselling compared to those not wanting more children (aOR 0.63, 95%CI 0.37-1.05), though this could be due to selective recall bias. And those living farthest away from the clinic (>1 hr) had, surprisingly, greater odds of receiving family planning counselling than those living nearer (aOR 1.72, 95%CI 0.96-3.09).

7.3.2 Provision of condoms (all clients)

Table 7.7 shows the crude and adjusted analysis of 'having received condoms' since testing HIV positive. In the crude analysis, a client's odds of receiving condoms were much lower at Clinics A-C, compared with baseline Clinic D (cOR 0.20, 0.18 and 0.37 respectively). There were several other factors showing a crude association with provision of condoms, including sex, age, marital status, distance living from clinic (minutes), current pregnancy, sexual activity, number of living children, death of child (weakly associated), discuss family planning with partner, client type, months since HIV test, being on ART and time enrolled at clinic.

A stratified analysis of association between clinic model and provision of condoms showed little evidence for effect modification among most baseline covariates on the relationship between clinic and condom provision. There was, however, evidence that sex was interacting with clinic (see Appendix 10), with the effect of clinic model stronger in men than women, compared to Clinic D. This suggests that Clinics A to C are all neglecting condom provision more in men than women versus Clinic D. However, since the direction of effect is negative in both men and women, the pooled summary odds ratios for both sexes has been presented.

Table 7.7: Crude and adjusted analysis of association between clinic model and access to condom provision (N=603)

Variable	Category	N	Got condoms % (n)	cOR	95%CI	aOR*	95%CI
Clinic model	Clinic A	(71)	40.8 (29)	0.20	(0.11 - 0.36)	0.16	(0.07 - 0.33)
	Clinic B	(164)	38.4 (63)	0.18	(0.11 - 0.29)	0.10	(0.05 - 0.19)
	Clinic C	(178)	55.6 (99)	0.37	(0.23 - 0.58)	0.19	(0.10 - 0.34)
	Clinic D	(190)	77.4 (147)	1.00	--	1.00	--
Age group	Less than 25	(99)	40.4 (40)	0.38	(0.23 - 0.62)	0.76	(0.39 - 1.48)
	25-29	(138)	54.3 (75)	0.67	(0.43 - 1.03)	0.84	(0.48 - 1.47)
	30-39	(225)	64.0 (144)	1.00	--	1.00	--
	40 or over	(141)	56.0 (79)	0.72	(0.47 - 1.10)	0.64	(0.35 - 1.19)
Sex	Male	(127)	72.4 (92)	2.46	(1.60 - 3.77)	2.55	(1.42 - 4.60)
	Female	(476)	51.7 (246)	1.00	--	1.00	--
Marital status	Unmarried	(293)	48.1 (141)	0.53	(0.38 - 0.74)	1.59	(1.02 - 2.47)
	Married or living with ptr	(310)	63.5 (197)	1.00	--	1.00	--
Education	None	(46)	52.2 (24)	0.84	(0.45 - 1.56)	1.06	(0.47 - 2.41)
	0-7 yrs (primary)	(160)	58.1 (93)	1.07	(0.73 - 1.56)	1.58	(0.98 - 2.56)
	8-12 yrs (secondary)	(356)	56.5 (201)	1.00	--	1.00	--
	>=12 yrs (college)	(41)	48.8 (20)	0.73	(0.38 - 1.40)	0.82	(0.35 - 1.89)
Average monthly income	E<500	(204)	58.3 (119)	1.00	--	1.00	--
	E500-999	(156)	59.6 (93)	1.05	(0.69 - 1.61)	0.65	(0.38 - 1.12)
	E1000-4999	(194)	50.5 (98)	0.73	(0.49 - 1.08)	0.35	(0.21 - 0.61)
	>=E5000	(49)	57.1 (28)	0.95	(0.51 - 1.79)	0.30	(0.12 - 0.75)
Distance from clinic (time)	0-39 mins	(288)	62.8 (181)	1.00	--	1.00	--
	31-60 mins	(199)	47.2 (94)	0.53	(0.37 - 0.76)	0.50	(0.31 - 0.79)
	>1 hr	(116)	54.3 (63)	0.70	(0.45 - 1.09)	0.54	(0.31 - 0.93)
Current pregnancy	No	(514)	59.3 (305)	1.00	--	1.00	--
	Yes	(89)	37.1 (33)	0.40	(0.25 - 0.64)	0.62	(0.30 - 1.25)
Sexual partnerships	No sex partners	(95)	30.5 (29)	0.29	(0.18 - 0.46)	0.23	(0.12 - 0.45)
	1 sex partner	(425)	60.5 (257)	1.00	--	1.00	--
	2-3 sex partners	(69)	63.8 (44)	1.15	(0.68 - 1.95)	0.83	(0.43 - 1.60)
	>=4 sex partners	(14)	57.1 (8)	0.87	(0.30 - 2.56)	0.58	(0.15 - 2.24)
No. living children	No children	(88)	45.5 (40)	0.69	(0.43 - 1.12)	0.76	(0.40 - 1.44)
	1-2 children	(293)	54.6 (160)	1.00	--	1.00	--
	3-4 children	(151)	66.9 (101)	1.68	(1.11 - 2.53)	1.21	(0.70 - 2.07)
	5 or more children	(71)	52.1 (37)	0.90	(0.54 - 1.52)	0.60	(0.28 - 1.26)
Age of youngest child	<=2 years	(144)	60.4 (87)	0.79	(0.54 - 1.16)	0.91	(0.53 - 1.57)
	Over 2 years	(459)	54.7 (251)	1.00		1.00	--
Death of child	No	(399)	53.9 (215)	1.00		1.00	--
	Yes	(204)	60.3 (123)	1.30	(0.92 - 1.83)	1.15	(0.74 - 1.79)
FP discuss with partner	No	(230)	42.2 (97)	0.40	(0.29 - 0.56)	0.47	(0.29 - 0.75)
	Yes	(373)	64.6 (241)	1.00		1.00	--
Fertility desires	No more or unable	(400)	56.5 (226)	1.00		1.00	--
	Unsure or wants	(203)	55.2 (112)	0.95	(0.67 - 1.33)	0.83	(0.51 - 1.32)
Client type	Pre-ART	(68)	54.4 (37)	0.78	(0.46 - 1.31)	1.24	(0.33 - 4.69)
	ART initiation	(25)	36.0 (9)	0.37	(0.16 - 0.85)	0.72	(0.23 - 2.26)
	ART refill	(395)	60.5 (239)	1.00	--	1.00	--
	ART user consult	(75)	54.7 (41)	0.79	(0.48 - 1.29)	0.78	(0.42 - 1.44)
	PMTCT/Infant HIV	(40)	30.0 (12)	0.28	(0.14 - 0.57)	0.71	(0.21 - 2.43)
Taking ART	Not on ART	(108)	45.4 (49)	0.59	(0.39 - 0.90)	0.80	(0.25 - 2.55)
	On ART	(495)	58.4 (289)	1.00	--	1.00	--
Time enrolled at clinic	<6 months	(228)	50.0 (114)	0.69	(0.48 - 0.98)	1.08	(0.68 - 1.74)
	6 months - 2 years	(265)	59.2 (157)	1.00	--	1.00	--
	> 2 years	(110)	60.9 (67)	1.07	(0.68 - 1.69)	1.54	(0.85 - 2.80)
CD4 count	<50	(42)	64.3 (27)	1.52	(0.78 - 2.99)	1.12	(0.48 - 2.62)
	51-200	(275)	54.2 (149)	1.00	--	0.69	(0.44 - 1.10)
	>200	(265)	56.6 (150)	1.10	(0.79 - 1.55)	1.00	--
	No count	(21)	57.1 (12)	1.13	(0.46 - 2.76)	2.01	(0.69 - 5.87)
On TB treatment	No	(575)	55.7 (320)	1.00	--	1.00	--
	Yes	(28)	64.3 (18)	1.43	(0.65 - 3.16)	1.89	(0.69 - 5.19)

*Adjusted for all other variables in table; significant associations (p<0.05) highlighted

Table 7.7 also displays the adjusted analysis of association between clinic model and receipt of condoms. The association between clinic and condom provision gets stronger after adjusting for confounding. Odds of accessing condom provision are lowest in Clinic B (aOR 0.10, 95%CI 0.05-0.19) compared to D, followed by Clinic A (aOR 0.16, 95%CI 0.05-0.34) and Clinic C (aOR 0.19, 95%CI 0.10-0.34). The main negative confounding variable was current pregnancy (i.e. more pregnant women at Clinics A and B had reduced odds of receiving condoms than other clients); the addition of other variables (one by one) did not substantially change the crude odds of receiving condoms (>10%).

Other factors associated with condom provision after controlling for confounding were: sex, with men's odds of condom provision over two-fold that of women's (aOR 2.55, 95%CI 1.42-4.60); marital status, with married/cohabiting clients having increased odds of receiving condoms than the unmarried (aOR 1.59, 95%CI 1.02-2.47); income, with those in the two wealthiest strata with reduced odds of receipt of condoms compared to those in the lowest income group (aOR 0.35, 95%CI 0.21-0.61, and aOR 0.30, 95%CI 0.12-0.75 respectively); and distance living from the clinic (in time), with those further away having reduced odds of receipt of condoms compared to those living less than 30 mins away (aOR 0.50, 95%CI 0.31-0.79, and aOR 0.54, 95%CI 0.31-0.93 for those living 31-60 mins, and >60 mins away respectively). Those with no sexual partners had lower odds than those with 1 partner (aOR 0.23, 95%CI 0.12-0.45), but there was no difference between one partner and multiple partners. Lastly, those who did not discuss family planning with a partner also had lower odds of being provided condoms than those who did (aOR 0.47, 95%CI 0.29-0.75).

7.3.3 Pregnancy counselling (in women)

Table 7.8 shows both crude and adjusted analyses of the association between clinic model and receipt of pregnancy counselling in women. In the crude analysis, women at Clinics A-C all had increased odds of having received counselling on how or when to get pregnant since testing HIV positive, compared to women at Clinic D (although with weak evidence at Clinic A) (cOR 1.56, 95%CI 0.83-2.94; cOR 2.44, 95%CI 1.50-3.94; and cOR 2.58, 95%CI 1.57-4.24 respectively). Other factors crudely associated with receiving pregnancy advice were age, marital status, education, current pregnancy, number of sexual partners, number of living children, age of youngest child, discuss family planning with partner, client type and CD4 count (weakly).

A bivariate analysis looked at interactions between clinic model and receipt of pregnancy advice, stratified by other key variables. There was no evidence of interaction for most

variables, though there was some evidence that age group was interacting with clinic (see Appendix 10). However, because the direction of association was the same in all strata of age group, and there was a very small sample in the youngest age group (which showed most difference in effect), the pooled data were still used for the multivariable analysis.

Table 7.8 also shows the adjusted association between covariates in the model and receipt of pregnancy advice. After adjusting for confounding, odds of receiving pregnancy advice were reduced in Clinic A, so there was no difference between the most integrated and most stand-alone site (aOR 1.39, 95%CI 0.63-3.08). They were still significantly higher at Clinic B than D (aOR 1.92, 95%CI 1.01-3.64). At Clinic C, there was negative confounding, so adjusted odds of receiving advice were over three times that than Clinic D (aOR 3.24, 95%CI 1.75-6.01). The effect of confounders was differential by clinic: at Clinics A and B, the main confounders were age, education (positive confounding at A, and negative at B), distance from clinic, current pregnancy, sexual partnerships, number of living children, discuss family planning with partner and time enrolled at clinic (negative confounding at A, positive at B). The effect at B was also confounded by marital status and client type. The effect at C was confounded by education, sexual partnerships, discuss family planning with partner (all negative), and also positively by time enrolled at clinic.

Other factors associated with receiving pregnancy advice were education, with those with no education having reduced odds of receiving pregnancy advice than those with secondary education (aOR 0.36, 95%CI 0.15-0.87); distance from clinic (weak evidence), with those living furthest away with reduced odds of receiving counselling (aOR 0.64, 95%CI 0.36-1.12); current pregnancy (weak evidence), with those currently pregnant having more than double the odds of receiving counselling (aOR 2.04, 95%CI 0.96-4.36); number of living children, with those with 5 or more children having reduced odds of receiving advice (aOR 0.37, 95%CI 0.16-0.89); user type, with those attending for an ART user consultation with reduced odds than ART refill clients of having received counselling (aOR 0.45, 95%CI 0.24-0.88); and lastly CD4 count, with those with no CD4 count having reduced odds of having received counselling than those with a count of over 200 cells/µl (aOR 0.31, 95%CI 0.10-0.97).

Table 7.8: Crude and adjusted analysis of association between clinic model and access to pregnancy counselling (women only, N=476)

Variable	Category	N	Got preg adv. % (n)	cOR	95%CI	aOR*	95%CI
Clinic model	Clinic A	(54)	59.3 (32)	1.56	(0.83 - 2.94)	1.39	(0.63 - 3.08)
	Clinic B	(144)	69.4 (100)	2.44	(1.50 - 3.94)	1.92	(1.01 - 3.64)
	Clinic C	(133)	70.7 (94)	2.58	(1.57 - 4.24)	3.24	(1.75 - 6.01)
	Clinic D	(145)	48.3 (70)	1.00		1.00	
Age group	Less than 25	(94)	70.2 (66)	1.17	(0.68 - 2.02)	0.66	(0.35 - 1.27)
	25-29	(128)	60.9 (78)	0.77	(0.48 - 1.25)	1.04	(0.51 - 2.11)
	30-39	(166)	66.9 (111)	1.00		1.00	
	40 or over	(88)	46.6 (41)	0.43	(0.25 - 0.73)	0.83	(0.32 - 2.19)
Marital status	Unmarried	(249)	57.4 (143)	1.53	(1.05 - 2.23)	1.36	(0.85 - 2.17)
	Married/living w/ptr	(227)	67.4 (153)	1.00		1.00	
Education	None	(32)	43.8 (14)	0.43	(0.21 - 0.91)	0.36	(0.15 - 0.87)
	0-7 yrs (primary)	(129)	62.0 (80)	0.91	(0.59 - 1.40)	0.95	(0.57 - 1.59)
	8-12 yrs (secondary)	(288)	64.2 (185)	1.00		1.00	
	>=12 yrs (college)	(27)	63.0 (17)	0.95	(0.42 - 2.14)	1.15	(0.44 - 3.01)
Average monthly income	E<500	(169)	60.9 (103)	1.00		1.01	(0.57 - 1.79)
	E500-999	(128)	68.0 (87)	1.36	(0.84 - 2.20)	0.64	(0.36 - 1.11)
	E1000-4999	(149)	58.4 (87)	0.90	(0.57 - 1.41)	1.00	
	>=E5000	(30)	63.3 (19)	1.11	(0.50 - 2.47)	0.91	(0.34 - 2.46)
Distance from clinic (time)	0-39 mins	(225)	65.3 (147)	1.00		1.00	
	31-60 mins	(158)	61.4 (97)	0.84	(0.55 - 1.29)	0.86	(0.53 - 1.39)
	>1 hr	(93)	55.9 (52)	0.67	(0.41 - 1.10)	0.64	(0.36 - 1.12)
Current pregnancy	No	(389)	59.4 (231)	1.00		1.00	
	Yes	(87)	74.7 (65)	2.02	(1.20 - 3.41)	2.04	(0.96 - 4.36)
Sexual partnerships	No sex partners	(81)	48.1 (39)	0.49	(0.30 - 0.80)	0.94	(0.47 - 1.85)
	1 sex partner	(351)	65.5 (230)	1.00		1.00	
	2 sex partners	(28)	57.1 (16)	0.70	(0.32 - 1.53)	0.75	(0.31 - 1.82)
	>=3 sex partners	(16)	68.8 (11)	1.16	(0.39 - 3.41)	0.99	(0.31 - 3.21)
No. living children	No children	(75)	60.0 (45)	0.81	(0.48 - 1.38)	0.80	(0.42 - 1.50)
	1-2 children	(245)	64.9 (159)	1.00		1.00	
	3-4 children	(107)	68.2 (73)	1.16	(0.72 - 1.88)	1.16	(0.64 - 2.10)
	5 or more children	(49)	38.8 (19)	0.34	(0.18 - 0.64)	0.37	(0.16 - 0.89)
Age of youngest child	<=2 years	(112)	73.2 (82)	1.92	(1.20 - 3.06)	1.48	(0.80 - 2.74)
	Over 2 years	(364)	58.8 (214)	1.00		1.00	
Death of child	No	(317)	64.0 (203)	1.00		1.00	
	Yes	(159)	58.5 (93)	0.79	(0.54 - 1.17)	0.94	(0.59 - 1.49)
FP discuss with partner	No	(193)	55.4 (107)	0.62	(0.42 - 0.90)	0.82	(0.49 - 1.37)
	Yes	(283)	66.8 (189)	1.00		1.00	
Fertility desires	No more or unable	(325)	61.2 (199)	1.00		1.00	
	Unsure/wants more	(151)	64.2 (97)	1.14	(0.76 - 1.70)	1.11	(0.66 - 1.86)
Client type	Pre-ART	(55)	60.0 (33)	0.88	(0.49 - 1.57)	1.44	(0.34 - 5.99)
	ART initiation	(23)	69.6 (16)	1.33	(0.53 - 3.34)	1.33	(0.36 - 4.88)
	ART refill	(304)	63.2 (192)	1.00		1.00	
	ART user consult	(54)	48.1 (26)	0.54	(0.30 - 0.97)	0.45	(0.24 - 0.88)
	PMTCT/Infant HIV	(40)	72.5 (29)	1.54	(0.74 - 3.20)	1.16	(0.29 - 4.63)
Taking ART	Not on ART	(94)	61.7 (58)	0.97	(0.61 - 1.55)	0.97	(0.61 - 1.55)
	On ART	(382)	62.3 (238)	1.00		1.00	
Time enrolled at clinic	<6 months	(176)	60.8 (107)	1.00	(0.66 - 1.50)	0.81	(0.49 - 1.34)
	6 months - 2 years	(207)	60.9 (126)	1.00		1.00	
	> 2 years	(93)	67.7 (63)	1.35	(0.81 - 2.26)	0.97	(0.51 - 1.82)
CD4 count	<50	(27)	59.3 (16)	0.76	(0.34 - 1.29)	1.05	(0.42 - 2.66)
	51-200	(137)	56.9 (78)	0.69	(0.46 - 1.05)	0.76	(0.47 - 1.22)
	>200	(297)	65.7 (195)	1.00		1.00	
	No count	(15)	46.7 (7)	0.46	(0.16 - 1.30)	0.31	(0.10 - 0.97)
On TB treatment	No	(459)	62.3 (286)	1.00		1.00	
	Yes	(17)	58.8 (10)	0.86	(0.32 - 2.31)	0.98	(0.32 - 3.01)

*Adjusted for all other variables in table; significant associations (p<0.05) highlighted

7.4 Association between clinic model and unmet needs for family planning

Crude data on unmet needs for family planning were presented in Chapter 6. Here, a multivariable analysis using logistic regression modelling is presented to test the hypothesis that integrated SRH-HIV models of care are associated with lower unmet needs for family planning. Table 7.9 shows both crude and adjusted analysis of association between clinic model and unmet needs, as well as associations between other key variables and the outcome. In the crude analysis, clients at both Clinics A and B have increased odds of unmet need over the baseline group, Clinic D (cOR 2.54, 95%CI 1.10-5.83; and cOR 1.99, 95%CI 1.05-3.77 respectively). There is no statistical difference between Clinic C and D (cOR 1.05, 95%CI 0.52-2.12). Other factors crudely associated with unmet need were education, current pregnancy, number of living children, death of a child, discussed family planning with partner, client type, taking ART and time enrolled at clinic.

A bivariate analysis of association between clinic model and unmet need, stratified by variables that potentially modify the effect of exposure on outcome, examined possible effect modification. The Mantel-Haenszel test for homogeneity of odds showed that the effect of clinic model on unmet need was mostly consistent across strata of these variables ($p>0.05$). However, it was modified by marital status ($p<0.01$ for all categories of clinic model compared to D) (see Appendix 10): unmarried women had much higher odds of unmet needs in Clinic A, B and C than Clinic D, compared to the pooled estimate, whereas married women may have reduced odds of unmet needs at these sites (although only with significantly lower odds at Clinic C). The likelihood ratio test for interaction on the full model was also significant ($p<0.001$). A closer interrogation of the data, however, revealed that this was due to a very small number (4; 10%) of the unmarried women at Clinic D having unmet need compared to 36 (90%) having met need, a reverse pattern to other clinics. If a different clinic (C) is used as the baseline group (see Appendix 10), the differential effect of marital status on the association between clinic and unmet need disappears when comparing A to C and B to C ($p>0.5$), though there naturally still remains a differential effect at Clinic D ($p<0.001$). Since the study was not powered to detect interaction in sub groups, these interaction results are therefore probably spurious given the very small sample size in this group, and it was determined appropriate to include the pooled data on marital status in the final model.

Table 7.9: Crude and adjusted analysis of association between clinic model and unmet need for family planning (among sexually active women of reproductive age, N=286)

Variable	Category	N	Unmet need % (n)	cOR	95%CI	aOR*	95%CI
Clinic model	Clinic A	(33)	45.5 (15)	2.54	(1.10 - 5.83)	2.76	(0.88 - 8.72)
	Clinic B	(86)	39.5 (34)	1.99	(1.05 - 3.77)	1.19	(0.46 - 3.07)
	Clinic C	(74)	25.7 (19)	1.05	(0.52 - 2.12)	0.71	(0.26 - 1.92)
	Clinic D	(93)	24.7 (23)	1.00		1.00	
Age group	Less than 25	(52)	28.8 (15)	1.03	(0.50 - 2.13)	2.44	(0.83 - 7.23)
	25-29	(93)	35.5 (33)	1.40	(0.78 - 2.51)	1.98	(0.90 - 4.38)
	30-39	(117)	28.2 (33)	1.00		1.00	
	40 or over	(24)	41.7 (10)	1.82	(0.73 - 4.50)	1.44	(0.40 - 5.14)
Marital status	Unmarried	(121)	35.5 (43)	1.34	(0.81 - 2.22)	2.02	(1.03 - 3.97)
	Married/living w/ptr	(165)	29.1 (48)	1.00		1.00	
Education	None	(17)	29.4 (5)	1.16	(0.39 - 3.47)	0.63	(0.16 - 2.48)
	0-7 yrs (primary)	(70)	41.4 (29)	1.97	(1.11 - 3.52)	1.76	(0.81 - 3.83)
	8-12 yrs (secondary)	(182)	26.4 (48)	1.00		1.00	
	>=12 yrs (college)	(17)	52.9 (9)	3.14	(1.15 - 8.60)	2.74	(0.70 - 10.67)
Average monthly income	E<500	(84)	28.6 (24)	0.96	(0.50 - 1.85)	0.63	(0.25 - 1.57)
	E500-999	(87)	36.8 (32)	1.40	(0.75 - 2.62)	1.41	(0.62 - 3.24)
	E1000-4999	(92)	29.3 (27)	1.00		1.00	
	>=E5000	(23)	34.8 (8)	1.28	(0.49 - 3.38)	1.25	(0.32 - 4.93)
Distance from clinic (cost)	E0-E5	(142)	37.3 (53)	1.00		1.00	
	E6-E10	(64)	25.0 (16)	0.56	(0.29 - 1.08)	0.57	(0.25 - 1.30)
	E11-E20	(47)	29.8 (14)	0.71	(0.35 - 1.45)	0.55	(0.22 - 1.39)
	Over E20	(33)	24.2 (8)	0.54	(0.23 - 1.28)	0.59	(0.18 - 1.93)
Current pregnancy	No	(241)	26.1 (63)	1.00		1.00	
	Yes	(45)	62.2 (28)	4.65	(2.39 - 9.07)	7.31	(2.56 - 20.87)
No. living children	No children	(44)	15.9 (7)	0.41	(0.17 - 0.99)	0.14	(0.04 - 0.48)
	1-2 children	(149)	31.5 (47)	1.00		1.00	
	3-4 children	(78)	41.0 (32)	1.51	(0.86 - 2.67)	3.74	(1.67 - 8.37)
	5 or more children	(15)	33.3 (5)	1.09	(0.35 - 3.35)	3.62	(0.75 - 17.57)
Age of youngest child	<=2 years	(78)	30.8 (24)	0.94	(0.53 - 1.64)	0.67	(0.30 - 1.49)
	Over 2 years	(208)	32.2 (67)	1.00		1.00	
Death of child	No	(183)	27.3 (50)	1.00		1.00	
	Yes	(103)	39.8 (41)	1.76	(1.05 - 2.93)	3.17	(1.59 - 6.31)
FP discuss with partner	No	(60)	45.0 (27)	2.07	(1.15 - 3.72)	2.98	(1.37 - 6.48)
	Yes	(226)	28.3 (64)	1.00		1.00	
Client type	Pre-ART	(31)	38.7 (12)	1.76	(0.80 - 3.88)	1.75	(0.24 - 12.70)
	ART initiation	(13)	53.8 (7)	3.24	(1.04 - 10.11)	1.33	(0.21 - 8.62)
	ART refill	(189)	26.5 (50)	1.00		1.00	
	ART user consult	(31)	25.8 (8)	0.97	(0.41 - 2.30)	0.44	(0.14 - 1.35)
	PMTCT/Infant HIV	(22)	63.6 (14)	4.87	(1.93 - 12.29)	2.41	(0.36 - 16.09)
Taking ART	Not on ART	(54)	44.4 (24)	1.97	(1.07 - 3.62)	0.65	(0.12 - 3.62)
	On ART	(232)	28.9 (67)	1.00		1.00	
Time enrolled at clinic	<6 months	(88)	40.9 (36)	1.85	(1.05 - 3.27)	1.02	(0.47 - 2.23)
	6 months - 2 years	(136)	27.2 (37)	1.00		1.00	
	> 2 years	(62)	29.0 (18)	1.09	(0.56 - 2.13)	1.02	(0.42 - 2.49)
CD4 count	<50	(17)	41.2 (7)	1.67	(0.60 - 4.62)	3.51	(0.86 - 14.33)
	51-200	(80)	33.8 (27)	1.22	(0.69 - 2.13)	1.40	(0.66 - 2.98)
	>200	(183)	29.5 (54)	1.00		1.00	
	No count	(6)	50.0 (3)	2.39	(0.47 - 12.21)	0.99	(0.14 - 6.93)

*Adjusted for all other variables in table

The multivariable analysis of unmet need is also displayed in Table 7.9. After adjusting for confounding in the survey population, the association between clinic model and unmet need becomes weaker or non-significant. There is weak evidence that unmet need is higher at Clinic A than baseline Clinic D (aOR 2.76, 95% CI 0.88-8.72), but there is no difference between Clinic B and D (aOR 1.19, 95%CI 0.46-3.07), or between C and D (aOR 0.71, 95%CI 0.26-1.92). The main confounding variables were age, education, current pregnancy, number living children, taking ART, and time enrolled at clinic.

The adjusted analysis also demonstrates other important determinants of unmet need for family planning in this population. The factor most strongly associated with unmet need is current pregnancy (aOR 7.31, 95%CI 2.56-20.87).[42] Other factors associated with unmet need were age (weakly), with younger clients (aged <25 and 25-29) having greater odds of unmet need than the baseline category of women aged 30-39 (aOR 2.44, 95%CI 0.83-7.23; and aOR 1.98, 95%CI 0.9-4.83 respectively). Unmarried women also had greater odds of unmet needs than those who are married or living with a partner (aOR 2.02, 95%CI 1.03 -3.97). There was also weak evidence that women with primary education had increased odds of unmet needs than women with secondary education (aOR 1.76, 95%CI 0.81-3.83) (though no evidence of effect with no education). There was no association with income or geographic residence (distance in cost to the clinic).

Regarding SRH characteristics, there was a strong association with the number of living children, with those with no children having greatly reduced odds of unmet need (aOR 0.14, 95%CI 0.04-0.48) than those with 1-2 children, while those with 3-4 children had greater odds (aOR 3.74, 95%CI 1.67-8.37). The association with those with ≥ 5 children was non-significant due to the small sample size in this strata, but the trend seems to be maintained (aOR 3.62, 95%CI 0.75-17.57). More unexpectedly, those who report the death of a child had greater odds of unmet need (aOR 3.17, 95%CI 1.59-6.31). There was also an association with the variable 'Discussed family planning with a partner', with those with no discussion having nearly three times greater odds of unmet needs (aOR 2.98, 95%CI1.37-6.48), highlighting the importance of partnership dynamics in family planning outcomes.

[42] Current pregnancy could be construed as an outcome, rather than determinant of unmet need. However, unmet need is measured in very different ways among the pregnant and non-pregnant. Given the large differences in current pregnancy prevalence between the sites, failure to control for this variable could bias results.

Finally, looking at HIV status factors, there is no significant variation in unmet need across client type (although some collinearity between current pregnancy and PMTCT may cancel the effect of this variable here), ART status, or time enrolled at clinic.

7.4.1 Summary of multivariable outcomes

Summary odds ratios are shown in Figure 7.5. After adjustment, clients at the two integrated sites A and B had significantly increased odds of having accessed family planning counselling than the most stand-alone site, Clinic D. A similar, although weaker, trend seems to hold true for pregnancy counselling. However, while there was a difference in family planning counselling access between Clinic B and C (p=0.013), there was no difference between A and C (p= 0.523). Clinic D, was clearly outperforming all other sites in distributing condoms, with clients at all other clinics with much lower odds of having received them. Furthermore, clients at the most integrated site, Clinic A, had increased odds of unmet needs for family planning compared to Clinic D (with weak evidence); though there was no difference in this outcome between the other sites. Table 7.10 also displays a summary of the determinants of use of family planning services and unmet needs for family planning, as reported in the previous sections.

Figure 7.5: Odds ratios of family planning service use and unmet needs for family planning

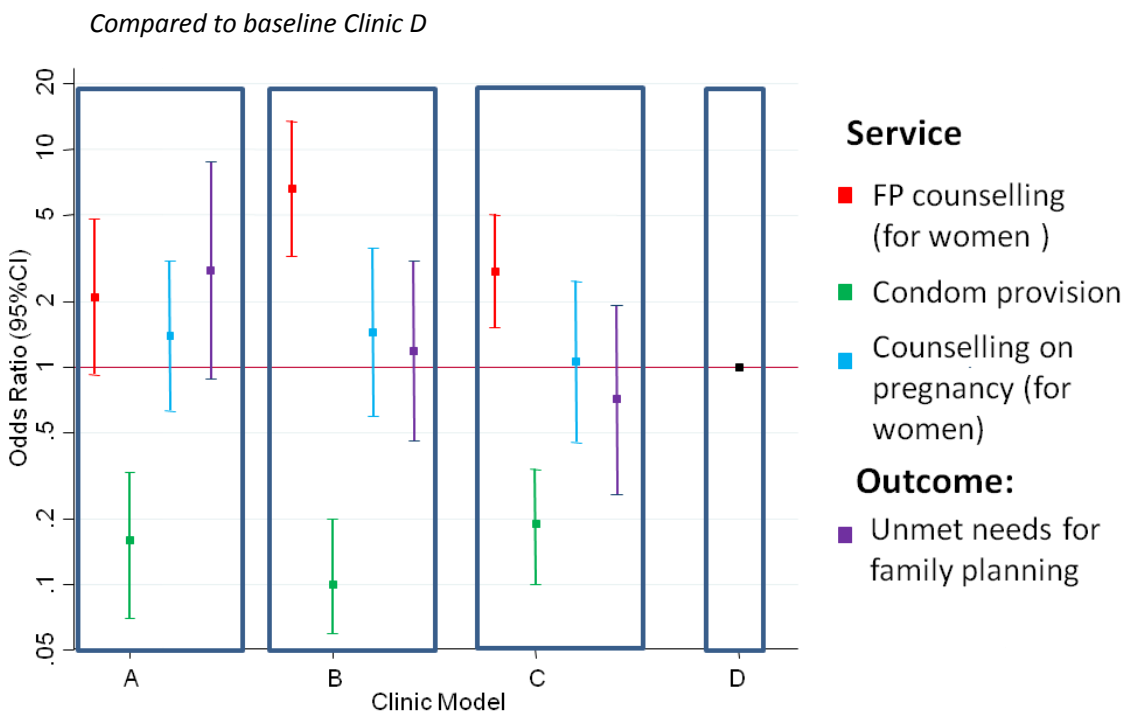


Table 7.10: Summary of determinants of FP service access

	Clients with reduced odds of accessing the service were those who:
FP counselling	attended Clinic D; went for ART user consultation; had been enrolled at clinic less time; wanted more children; lived closer to the clinic
Condom provision	attended clinic A, B or C; were women; were unmarried; were in the two wealthiest income strata; lived furthest away from the clinic; had no sexual partner; did not discuss family planning with a partner
Pregnancy counselling	attended Clinic D; had no education; lived furthest from clinic; were not pregnant; had ≥5 children; attended for an ART user consultation; had no CD4 count.
	Clients with increased odds of unmet need for family planning were those who:
Unmet need for FP	attended Clinic A (weak evidence); were currently pregnant; were of younger age; were unmarried; had primary education; had more children already; had a child who died; and who had never discussed family planning with their partner.

7.5 Summary & discussion

This chapter has demonstrated important variations in the use of different types of SRH services, as well as variations across clinic models. While differences across clinic may in part reflect differences in client populations at different sites, the use of multivariable models has been useful to control for these population differences. The main findings of this chapter are now summarised.

Firstly, data on service uptake support findings from the previous chapter demonstrating that condom promotion forms an important SRH service focus within HIV services. Encouragingly, this has resulted in large proportions of clients receiving counselling in this area, which is critical for prevention of onward transmission of the virus to uninfected sexual partners. Nonetheless, a large proportion of clients were not actually provided condoms within the clinics; this is particularly concerning when public sector condoms are so freely available in Swaziland. Furthermore, multivariable analysis demonstrated that clients at clinics A-C had significantly reduced odds of being provided condoms than the stand-alone site, and this suggests a major gap in SRH service provision at those sites. Overall, receipt of family planning counselling was much lower than that of condom counselling, which is particularly worrying when all clients are supposed to receive this service. This contrasts with a study in ART clinics in South Africa investigating service response which documented high rates of discussion about condoms with

providers (86%) but also found an even higher rate of discussion about contraceptive use (89%), as well as high levels of discussion about cervical cancer or pap smears (65%) (Myer et al., 2007b).

Some SRH services also showed a particularly low uptake, including pap smears and sexual health counselling (though this may be related to measurement error and difficulties in understanding the item under question (see limitations below)). Clinic A is evidently the main provider of pap smears in Manzini, and higher uptake at that site points to benefits of service integration. Still, two thirds of women there had not accessed the service, despite the clinic's stated policy on all positive women being given pap smears. Smear tests are also theoretically available at Clinic B, yet only 1 in 10 women had accessed this important service for PLWH there. This again highlights that other factors over and above 'service integration' may be equally important in promoting uptake of component services. Gaps in SRH service provision were also substantiated by documentation of a range of missed opportunities for the delivery of SRH services to PLWH. While this 'latent demand' was also related to demand-side factors (i.e. missed opportunities for SRH were highest at Clinic B where more pregnant women attended), it was interesting that most clients in fact wanted more information on ART and TB, rather than SRH. This suggests that SRH may not be the most important concern for many clients, and also that providers still have work to do to deliver a comprehensive HCTx service, let alone expand their remit to SRH. Furthermore, integration, when it occurred, was being driven primarily by providers. Given the missed opportunities documented, this suggests clients may not feel able to request additional services. Interestingly, though, certain types of services were more client-driven than others, including pap smears, family planning method provision and condom provision. The cause of these differences is unclear, and further analysis of interactions between clients and providers will be presented in Chapter 9.

Adjusted analyses demonstrated that integrated clinics were doing a better job at promoting access to family planning services than stand-alone sites. While a stratified analysis suggested that the effect may be differential on and off ART (but not confirmed due to the small sample of pre-ART clients), qualitative findings from the previous chapter support this finding, and suggest that that it derives from an important emphasis on dual protection, in addition to routine condom counselling. On-site availability of contraceptive methods, therefore, may be an important strategy to facilitate counselling and ultimately promote uptake of dual methods. The fact that about half of clients receiving an SRH service did so in the same room as their HCTx care supports this view. However, family planning method provision to women still remained

low in general, and furthermore, the higher levels of family planning and pregnancy counselling provision at integrated sites did not yield lower unmet needs for family planning there compared to a stand-alone site. This could partly be explained by the over-reliance on condoms which were not sufficiently distributed. As the last chapter suggested, it may also reflect failures to regularly address family planning over time in accordance with changing needs. Short-comings in uptake may also be related to integration failures; as Chapter 5 demonstrated, Clinic A was not as integrated as purported to be, and data presented in this chapter again underline that many ART clients are internally referred for family planning and other SRH services.

The multivariable analyses also demonstrated other important determinants of service uptake and unmet needs outcomes. Women and unmarried clients had lower odds of receiving condoms than men and married clients, an important concern considering young women have the greatest needs for them for both contraceptive protection and positive prevention. The young and unmarried also had greater odds of unmet needs for family planning, again concerning considering the illegality of abortion in Swaziland. Also, very worryingly, those with 5 or more children had reduced odds of receiving pregnancy counselling than those with less children. Gender relations are also important, with those not discussing family planning with a partner having reduced odds of receiving condoms and greater odds of having unmet needs for family planning.

In terms of limitations to data presented here, it could be argued that access to SRH services since a positive test result is not wholly dependent on the actions of the client's current facility, and therefore not an appropriate outcome by which to measure the success of integration models. However, only 10% of services had been accessed in another facility (or elsewhere) and only 16% of services had been accessed more than one year ago; furthermore, as found in Chapter 5, only 15% of clients had switched clinics since initiating ART. A sub-group sensitivity analysis was conducted on the three uptake outcomes excluding those who had accessed the service elsewhere and found no important effect on estimates (all ≤10%). Even if clients do not receive the care onsite, the ART provider should still play a role in promoting access to the service. Thus these uptake findings are still a useful indicator of integration success.

There may also have been issues with the content validity of questions on service use. Studies in Europe suggest many women do not understand the meaning of a pap smear (Waller et al., 2003), and this is likely to be much more common in Swaziland where the service has not been routinely accessible. While interviewers were trained to explain the procedure it is feasible that many women may not have understood either the question, or whether or not they had

received a smear test. 'Sexual health screening', again while explained to the respondents, may also have been difficult to interpret. There was also undoubtedly recall bias on services received, and this would have been stronger among those enrolled at the clinic for longer. This may have resulted in underestimates of the number of services received.

There are also limitations to the multivariable methods used. Disentangling causal mechanisms within certain associations was problematic. For example, discussion of family planning with a partner could potentially lie on the causal pathway between clinic and unmet need. However, in these models it was considered more as a proxy for gender norms, and thus it was determined important to leave it in the models. Further, as noted in the footnote on page 187, current pregnancy could have been construed as an outcome, rather than determinant, of unmet need. However, as noted, given that unmet need is measured in very different ways among the pregnant and non-pregnant, and given the large differences in current pregnancy prevalence between the sites, failure to control for this variable could have biased the comparison of model effectiveness substantially. The fact that those who tested positive during a current pregnancy were excluded from the analysis (due to lack of data on their intendedness of pregnancy), also helps establish the causal pathway between model and unmet needs among the currently pregnant.

Summary of main findings (Chapter 7):

- While most clients accessed condom counselling (since testing positive), just over half actually received condoms, and a similar proportion accessed family planning counselling; very few accessed important SRH services such as cervical cancer screening.
- There was a strong potential 'latent demand' for SRH services, with many clients reporting they would have liked further counselling. Missed opportunities still exist for ART itself though, with most wanting further information on ART and TB. Despite this demand, integration when it occurred, was being primarily driven by providers, and clients did not ask for services.
- Multivariable analyses, controlling for clinic population-level differences, demonstrated that clients at integrated sites had higher odds of receiving family planning counselling than the most stand-alone site, and about half of those accessing this service did so in the same room as HCTx care. However, clients at integrated sites were much less likely to receive condoms, and perhaps as a consequence, had increased odds of unmet needs for family planning, in particular compared to the most integrated site.
- Women and unmarried clients had lower odds of receiving condoms, and the youth and unmarried also had greater unmet needs for family planning. Pregnancy counselling was also least likely among those with most children, an important concern.

8. Client satisfaction and stigma

Introduction

This chapter uses both quantitative and qualitative data to measure and explore concepts of client satisfaction and HIV-related stigma within the clinics. As highlighted in the literature review in Chapter 2, it has been suggested that integration may help to increase client satisfaction by making services more accessible, as well as reduce feelings of stigmatisation by allowing PLWH to attend services not solely associated with HIV service delivery. However, service integration risks reducing quality if breadth is achieved at the expense of depth, and potentially by association, satisfaction. Integration may also risk increasing stigma if providers in more generalist settings were to hold more stigmatizing attitudes towards PLWH than their counterparts in an HIV clinic. Satisfaction and stigma are interrelated concepts, since a HIV positive client's satisfaction with care is likely to be related to their experiences of stigma within the clinic.

Investigating and measuring client satisfaction or dissatisfaction within health services is challenging. The relative dependency of clients within the health system, the need to maintain constructive relationships with those providing care, and the general preference for holding a positive outlook all contribute to a series of psycho-social pressures that mitigate criticisms of health care received (Edwards et al., 2004; Avis et al., 1997; Williams et al., 2000; Hekkink et al., 2003). This results in consistently high satisfaction scores across health care surveys (Weston et al., 2009). The triangulation of both qualitative and quantitative methods is therefore important here to help gauge the extent of potential bias in quantitative measures.

Furthermore, previous chapters have demonstrated that the definitions of the four models are ambiguous, with integrated sites failing to offer the package of services within one room or one building that they hoped to deliver, and with stand-alone sites delivering a minimum package of SRH care. Therefore, while the quantitative data will compare satisfaction scores across the four sites, the relationship between satisfaction and integration will also be explored qualitatively to examine what are the dimensions of service delivery that constitute satisfaction and stigma, i.e. unpacking the concepts of satisfaction and stigma, and then to investigate how these dimensions are related to integration or specialisation in medical care.

The chapter starts by defining the measures of satisfaction and stigma used in the quantitative analysis. Results are organised by theme and methodology into four sections: (i) quantitative results on satisfaction (including satisfaction scores and integration preferences); (ii) qualitative results on satisfaction (including a discussion of how satisfaction is assessed; and how it is conceptualised); (iii) quantitative results on stigma; and (iv) qualitative results on stigma. Qualitative data on satisfaction are derived from client IDIs only, while data on stigma come from both provider and client IDIs.

8.1 Methods & measures

The satisfaction measures were comprised of the eight dimensions shown in Box 8.1. Data are presented both individually for each dimension, and also as an aggregate mean satisfaction index (which is then tested for association with clinic model through a multivariable analysis). These dimensions were taken directly from other instruments in the Integra study, and were left untouched to ensure cross-model and cross-country comparisons. Their reliability as a scale was tested with Cronbach's alpha coefficient (0.68).

Box 8.1: Satisfaction indices (agree-disagree from 1 to 5)

1. The staff were friendly
2. The nurses and doctors listened to me
3. I got all the information I needed during today's consultation
4. My consultation was private
5. I felt free to tell the nurses and doctors personal and private information about my sex life
6. The waiting time was reasonable
7. This clinic always has the drugs I need
8. I would recommend this clinic to a friend

While median scores would have been a more appropriate measure of central tendency, means were considered more useful to identify small differences between clinics. Bias arising from skewed score distributions should be consistent across sites. Differences in scores between clinics were tested with the analysis of variance (ANOVA).

Stigma was also measured using scales, across the dimensions shown in Box 8.2. No pre-existing tools measuring structural dimensions of stigma within health facilities were identified. The three dimensions are conceptually independent of each other measuring aspects of potential disclosure and loss of confidentiality through clinic attendance, concern about staff gossiping, and perceived respect within the clinic for PLWH. Therefore it was decided not to use them together as a multi-item score, and instead a single-item approach was taken. The first measure on disclosure was developed based on insights from qualitative client IDI data. The second two measures were taken from a Population Council instrument measuring stigma in health facilities

(Khuat et al., 2008), and were selected as indicators related to structure and organisation of care. Other measures of stigma identified elsewhere were not pertinent to its measurement within HIV-only facilities.

Box 8.2: Stigma indices (agree-disagree from 1 to 5)

1. Others can find out my status when I come to this clinic for HIV services
2. Staff members at this clinic might tell other people about my HIV status without my permission
3. People living with HIV are treated with respect in this clinic

Logistic regression analyses were conducted to test the association between clinic model and both satisfaction and stigma. For each outcome, binary measures were used (mean score ≥4 out of 5) recognising the extent of end skew in the scales. For satisfaction, the aggregate mean score formed the dependent variable; for stigma, the single measure of potential status disclosure threat through clinic attendance was used (i.e. the critical dimension of stigma that model of care can influence). As with the previous chapter, an 'all variable' approach was used, with all conceptually potential confounders included in the models (see Figure 4.2 on page 89) and significant associations are highlighted in grey in the tables.

Regarding the qualitative data, the methodology of three repeated IDIs with clients is particularly helpful to help reduce potential courtesy bias and to examine changes in perceptions of clinics over time. As with previous chapters, points of emphasis are underlined where appropriate by the researcher.

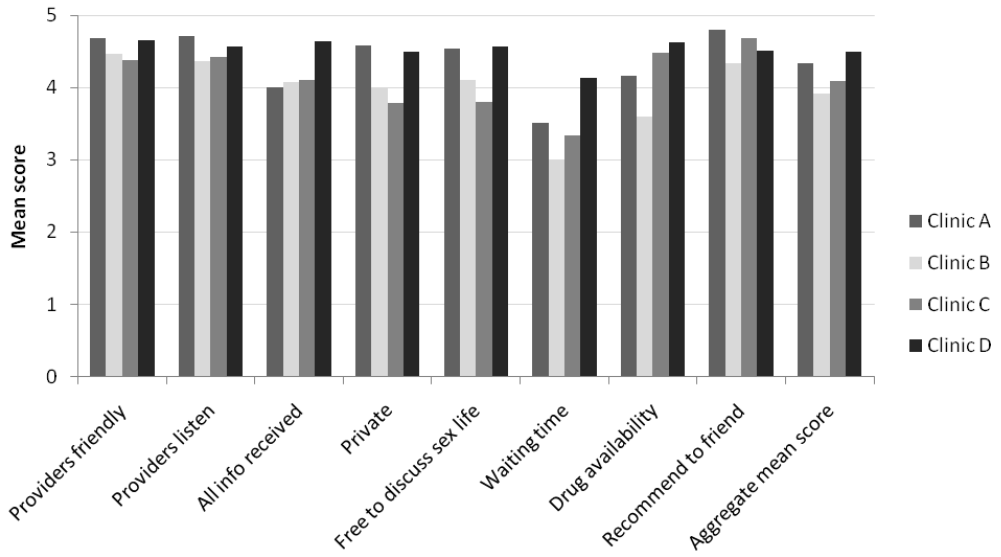
8.2 Quantitative results on client satisfaction

8.2.1 Interpersonal care

Figure 8.1 shows the mean scores assigned by respondents to eight different indices of client satisfaction. The individual scores and total mean satisfaction scores are also shown in Table 8.1. The graph demonstrates the high ranking given to most indices across all sites, with few clients rating less than 3 out of 5. There were, however, significant variations across clinic sites, with all criteria generating an analysis of variance score $p<0.001$.

The lowest ranked criterion was waiting time, which was scored lowest at Clinic B (2.99, SD 1.44). As described in Chapter 5, this clinic had the highest waiting times per provider. Notably, Clinic A, the most integrated site, scored lowest on getting 'all the information I needed' during the consultation.

Figure 8.1: Mean scores of client satisfaction indices (N=602)



An aggregate mean satisfaction score was calculated based on the eight dimensions outlined in Box 8.1 and Figure 8.1. Clinic D had the highest mean aggregate score with 4.52/5.00, and Clinic B scored lowest with 3.99/5.00. It is notable that the two privately run clinics (A and D) both scored higher than the two public clinics (B and C). Post-hoc pairwise comparisons[43] demonstrate that all clinics differ from each other statistically except Clinics B from C, and Clinics A from D ($p>0.05$). However, despite a low aggregate score, clients at Clinic C scored highly on recommending the clinic to a friend (4.69, vs an average of 4.55 across clinics). Table 8.2 shows that the proportion of clients at each clinic with an aggregate satisfaction score of ≥4 (out of 5) was highest at Clinic D (89%) and lowest at Clinic B (61%), and the association between clinic and score was significant ($p<0.001$). This indicator is examined in a multivariable analysis in the next section.

[43] The post estimation test used was the Tukey-Kramer pairwise comparison.

Table 8.1: Mean satisfaction scores, by clinic (N=602)

Variable	Clinic A Mean (SD)	Clinic B Mean (SD)	Clinic C Mean (SD)	Clinic D Mean (SD)	All clinics Mean (SD)	F stat (p value)
Agreement with the following statement:						
Providers are friendly	4.69 (0.6)	4.47 (0.6)	4.38 (1.0)	4.66 (0.5)	4.53 (0.7)	6.24 (<0.001)
The nurses and doctors listened to me	4.72 (0.6)	4.36 (0.7)	4.43 (0.9)	4.57 (0.6)	4.49 (0.7)	6.05 (<0.001)
I got all the information I needed during today's consultation	4.00 (1.3)	4.07 (0.9)	4.11 (1.2)	4.64 (0.6)	4.25 (1.0)	13.96 (<0.001)
My consultation was private	4.59 (0.9)	4.01 (1.2)	3.78 (1.2)	4.49 (0.9)	4.16 (1.1)	17.87 (<0.001)
I felt free to tell the nurses and doctors personal and private information about my sex life	4.54 (0.8)	4.10 (1.0)	3.80 (1.3)	4.57 (0.6)	4.21 (1.0)	21.61 (<0.001)
The waiting time was reasonable	3.51 (1.5)	2.99 (1.4)	3.34 (1.5)	4.13 (1.1)	3.51 (1.4)	22.09 (<0.001)
This clinic always has the drugs I need	4.17 (1.1)	3.60 (1.4)	4.48 (1.0)	4.62 (0.6)	4.25 (1.1)	32.67 (<0.001)
I would recommend this clinic to a friend	4.80 (0.4)	4.33 (0.7)	4.69 (0.8)	4.51 (0.8)	4.55 (0.8)	9.86 (<0.001)
Aggregate mean satisfaction score	**4.38 (0.5)**	**3.99 (0.5)**	**4.12 (0.6)**	**4.52 (0.4)**	**4.24 (0.6)**	**35.69 (<0.001)**

Table 8.2: Proportion of clients with aggregate mean score ≥ 4.00 out of 5.00

Variable	Clinic A	Clinic B	Clinic C	Clinic D	All clinics	P value
Mean score ≥4:	**% (N)**	**% (N)**	**% (N)**	**% (N)**	**% (N)**	**(χ2)**
No	22.5 (16)	38.7 (63)	29.8 (53)	11.1 (21)	25.4 (153)	<0.001
Yes	77.5 (55)	61.3 (100)	70.2 (125)	88.9 (169)	74.6 (449)	
Total	**100.0 (71)**	**100.0 (163)**	**100.0 (178)**	**100.0 (190)**	**100.0 (602)**	

8.2.2 Association between clinic model and client satisfaction

Table 8.3 shows both crude and adjusted odds of client satisfaction (score ≥4 out of 5) among all clients, across a range of baseline factors. In the crude analysis, clients at Clinic A-C are less likely to be satisfied than those at Clinic D (cOR 0.43 95%CI 0.21-0.88, cOR 0.20 95%CI 0.11-0.34, and cOR 0.29 95%CI 0.17-0.51 respectively). Other factors associated with satisfaction in the crude analysis were age, marital status, sexual activity, current pregnancy, client type, on ART, and time enrolled at clinic. A bivariate analysis was also conducted to investigate potential interaction, with the association between clinic and satisfaction stratified by factors highlighted in Figure 4.2 on page 89). No significant effect modification was found.

Table 8.3: Crude and adjusted analysis of association between clinic model and client satisfaction (mean score ≥ 4) (N=602)

Variable	Category	N	Satisfaction scr ≥4 N %	cOR	95%CI	aOR*	95%CI
Clinic MODEL	Clinic A	71	55 (77.5)	0.43	(0.21 - 0.88)	0.54	(0.24 - 1.22)
	Clinic B	163	100 (61.3)	0.20	(0.11 - 0.34)	0.24	(0.13 - 0.46)
	Clinic C	178	125 (70.2)	0.29	(0.17 - 0.51)	0.26	(0.14 - 0.49)
	Clinic D	190	169 (88.9)	1.00	--	1.00	
Age group	Less than 25	99	63 (63.6)	0.59	(0.36 - 0.99)	0.67	(0.36 - 1.26)
	25-29	137	106 (77.4)	1.16	(0.70 - 1.91)	1.28	(0.72 - 2.27)
	30-39	225	168 (74.7)	1.00	--	1.00	
	40 or over	141	112 (79.4)	1.31	(0.79 - 2.18)	1.28	(0.69 - 2.37)
Sex	Male	127	98 (77.2)	1.19	(0.75 - 1.90)	1.24	(0.70 - 2.20)
	Female	475	351 (73.9)	1.00	--	1.00	
Marital status	Unmarried	292	228 (78.1)	1.00	--	1.00	
	Married/ living with partner	310	221 (71.3)	1.43	(0.99 - 2.08)	0.86	(0.55 - 1.33)
Education	None	46	32 (69.6)	0.69	(0.35 - 1.36)	0.61	(0.28 - 1.32)
	0-7 yrs (primary)	159	116 (73.0)	0.82	(0.53 - 1.26)	0.84	(0.51 - 1.37)
	8-12 yrs (secondary)	356	273 (76.7)	1.00	--	1.00	
	>=12 yrs (college)	41	28 (68.3)	0.65	(0.32 - 1.32)	0.41	(0.18 - 0.96)
Average monthly income	E<500	204	155 (76.0)	1.00	--	1.00	
	E500-999	155	113 (72.9)	0.85	(0.53 - 1.37)	0.92	(0.54 - 1.59)
	E1000-4999	194	142 (73.2)	0.86	(0.55 - 1.36)	0.80	(0.46 - 1.38)
	>=E5000	49	39 (79.6)	1.23	(0.57 - 2.65)	0.98	(0.37 - 2.61)
Distance from clinic (time)	Under 30 mins	287	209 (72.8)	1.00	--	1.00	
	31-60 mins	199	152 (76.4)	1.21	(0.79 - 1.83)	1.45	(0.91 - 2.32)
	Over 1 hr	116	88 (75.9)	1.17	(0.71 - 1.93)	1.10	(0.63 - 1.91)
No. sex partners in past 12 months	None	95	81 (85.3)	2.20	(1.20 - 4.04)	1.96	(0.96 - 4.01)
	1 sex partner	424	307 (72.4)	1.00	--	1.00	
	2-3 sex partners	69	51 (73.9)	1.08	(0.61 - 1.92)	1.10	(0.58 - 2.09)
	>=4 sex partners	14	10 (71.4)	0.95	(0.29 - 3.10)	1.10	(0.29 - 4.13)
No. living children	No children	88	65 (73.9)	0.94	(0.54 - 1.62)	0.96	(0.52 - 1.77)
	1-2 children	293	220 (75.1)	1.00	--	1.00	
	3-4 children	150	111 (74.0)	0.94	(0.60 - 1.48)	0.76	(0.45 - 1.30)
	5 or more children	71	53 (74.6)	0.98	(0.54 - 1.77)	0.52	(0.24 - 1.13)
Current pregnancy	No	513	391 (76.2)	1.00	--	1.00	
	Yes	89	58 (65.2)	0.58	(0.36 - 0.94)	1.49	(0.73 - 3.05)
Client type	Pre-ART	68	46 (67.6)	0.59	(0.34 - 1.04)	0.91	(0.26 - 3.21)
	ART initiation	25	19 (76.0)	0.89	(0.35 - 2.31)	1.49	(0.45 - 4.95)
	ART refill	395	308 (78.0)	1.00	--	1.00	
	ART user consult	75	57 (76.0)	0.89	(0.50 - 1.60)	0.85	(0.45 - 1.62)
	PMTCT/Infant HIV	39	19 (48.7)	0.27	(0.14 - 0.53)	0.46	(0.14 - 1.50)
Time enrolled at clinic	<6 months	228	160 (70.2)	0.65	(0.43 - 0.97)	0.83	(0.51 - 1.33)
	6 months - 2 years	264	207 (78.4)	1.00	--	1.00	
	> 2 years	110	82 (74.5)	0.81	(0.48 - 1.36)	1.08	(0.59 - 1.98)
On ARVs	No	107	68 (63.6)	0.52	(0.33 - 0.81)	0.64	(0.21 - 1.89)
	Yes	495	381 (77.0)	1.00	--	1.00	
CD4 count	<50	42	33 (78.6)	1.23	(0.56 - 2.67)	0.91	(0.38 - 2.14)
	51-200	192	142 (74.0)	0.95	(0.63 - 1.42)	0.80	(0.50 - 1.28)
	>200	347	260 (74.9)	1.00	--	1.00	
	No CD4 count	21	14 (66.7)	0.67	(0.26 - 1.71)	0.82	(0.29 - 2.29)
TB treatment	No treatment	574	427 (74.4)	1.00	--	1.00	
	On treatment	28	22 (78.6)	1.26	(0.50 - 3.17)	1.09	(0.40 - 2.99)

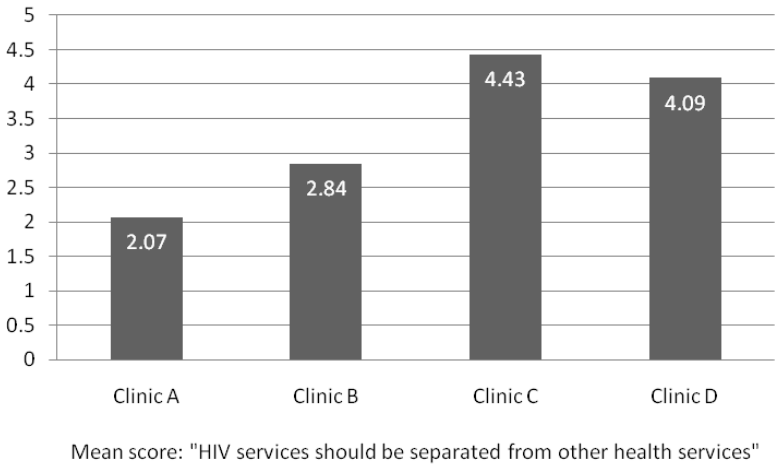
*Adjusted for all other variables in table; significant associations (p<0.05) highlighted

After controlling for all other variables in the table, there still remains a strong association between clinic model and client satisfaction, with those at the NGO-run clinics (A and D) having greater odds of satisfaction; those at Clinics B and C had significantly reduced odds of satisfaction than those at Clinic D (aOR 0.24, 95%CI 0.13-0.46, and aOR 0.26, 95%CI 0.14-0.49 respectively), but there was no statistically significant difference between clinics A and D (p=0.139). The main confounding factors at Clinic A were education level and being on ART. The only other factor significantly associated with satisfaction was education: those with tertiary education had less than half the odds of satisfaction then those with secondary education (aOR 0.41, 95%CI 0.18-0.96). There is also evidence that those with no sexual partner are more satisfied with their service compared to those with one partner (aOR 1.96, 95%CI 0.96-4.01).

8.2.3 Preferences for integration

A single-item score was used to evaluate preferences for specialist HIV services in the survey, with clients asked to rate their agreement with the statement “HIV services should be separated from other health services”. The mean scores are shown in Figure 8.2. Clients at the more specialist clinics, Clinics C and D, felt more strongly that HIV clinics should be kept separate from other health services (post-hoc tests on ANOVA comparing difference of means between C and D were not significant but all other pair-wise comparisons were significantly different to each other (p<0.001)).

Figure 8.2: Preferences for specialist HIV care scores



In order to gauge an understanding of whether integration factors played any role in service choice, respondents were also asked to state why they chose their clinic for HIV care. Clients were not asked to rate a list of factors, but rather to free-list, and the data are summarised in

Table 8.4. The data for all clinics demonstrate that proximity of the clinic is the most important factor in choosing a clinic (28% of responses). Factors related to integration, 'specialist services' ('Facility offers specialist services') and 'multiple services ('Possibility to receive other services at the same'), were selected by less than 10% of respondents. However, more mentioned specialist services over integrated services (6.6% vs 3.5%).

Looking at the results broken down by clinic, some important differences emerge. At Clinic A, affective elements related to quality of care are more important, including provider friendliness (20%), waiting times (16%), and confidentiality (19%). Clinic A scored far higher than other sites on confidentiality (19%) with the average across all sites being only 5% of responses. A greater proportion of clients at Clinic A mentioned 'specialist services' over 'multiple services' (7% vs 5%), suggesting that clients at that clinic consider themselves to be able to access specialist HIV care at this site.

While Clinic B had a good proportion citing provider friendliness (20%), this was not the case at the other public sector site, Clinic C (4%). Clinic C also had the largest proportion citing attendance due to multiple services being available (8%), and none reported coming because specialist care was available (likely due to its status as a hospital, and the possibility to get any type of medical at that site). At Clinic D, conversely, the highest proportion reported attending due to specialist care (14%).

Table 8.4: Reasons for choice of clinic (by clinic))

Note: Key integration factors are highlighted in grey

Variable	Clinic A	Clinic B	Clinic C	Clinic D	All clinics	P value
	% (N)	% (N)	% (N)	% (N)	% (N)	(χ2)
Clinic choice criteria						
Clinic close by	4.8 (6)	37.2 (102)	49.0 (118)	12.8 (39)	28.1 (265)	<0.001
Providers friendly	20.2 (25)	20.1 (55)	4.2 (10)	13.4 (41)	13.9 (131)	<0.001
Referred	4.0 (5)	2.6 (7)	11.6 (28)	20.0 (61)	10.7 (101)	<0.001
Recommended by friend/family	9.7 (12)	6.2 (17)	0.8 (2)	18.0 (55)	9.1 (86)	<0.001
Cost	2.4 (3)	8.4 (23)	9.5 (23)	7.9 (24)	7.7 (73)	0.182
Waiting times	16.1 (20)	11.3 (31)	0.4 (1)	4.6 (14)	7.0 (66)	<0.001
Spcialist services available	**7.3 (9)**	**3.3 (9)**	**0.0 (0)**	**14.4 (44)**	**6.6 (62)**	**<0.001**
Confidential	18.6 (23)	2.2 (6)	1.2 (3)	3.9 (12)	4.7 (44)	<0.001
Multiple services available	**4.8 (6)**	**2.2 (6)**	**8.3 (20)**	**0.3 (1)**	**3.5 (33)**	**<0.001**
Far (confidential)	4.8 (6)	1.5 (4)	6.2 (15)	1.3 (4)	3.1 (29)	0.008
Drugs available	1.6 (2)	1.5 (4)	5.8 (14)	1.0 (3)	2.4 (23)	0.011
Doctor available	0.0 (0)	0.7 (2)	0.0 (0)	1.6 (5)	0.7 (7)	0.083
Modern	0.0 (0)	0.4 (1)	1.2 (3)	0.7 (2)	0.6 (6)	0.619
Opening hours	3.2 (4)	0.4 (1)	0.0 (0)	0.0 (0)	0.5 (5)	<0.001
Other reason	2.4 (3)	2.2 (6)	1.7 (4)	0.0 (0)	1.4 (13)	0.062
Total no. cases	**(72)**	**(166)**	**(183)**	**(190)**	**(611)**	
Total no. responses	**100 (124)**	**100 (274)**	**100 (241)**	**100 (305)**	**100 (944)**	

8.3 Qualitative exploration of satisfaction with services

Qualitative data give a richer and more nuanced picture of client satisfaction across the four sites than is discernable through standardised quantitative measures. It is useful to delve into depth in qualitative accounts and explore that relationship between satisfaction and integration. First, however, it is useful and important to investigate how assessments about care received were made.

8.3.1 How are assessments about clinic experiences made?

For many clients, their experience in HCTx, accessing a comprehensive programme of medical treatment, was assessed through comparisons with previous health system encounters. This included contrasts between the ART unit and other health units in the same facility, including the OPD (Clinic C) and MCH units (Clinics A and B), with traditional medicine providers, or just with undefined clinics attended in the past:

> *from my own point of view it looks like a very good clinic when you compare it to other clinics, especially the way they care for patients. It's not like other clinics where you are told to move to the other side, sit over there, move…(laughing) [Female client, Clinic A, 0401]*

Comparisons between different units within one facility highlight the difficulties in assessing satisfaction with a clinic as distinct from satisfaction with a unit or an individual provider. Clients themselves recognised it was difficult to give generic ratings of performance at a clinic, with nurses varying "by personality" as one put it. Clients also highlighted how standards of care varied over time. Perceived slips in standards were attributed to heavier than usual client loads, or providers "having a bad day".

Several clients had also accessed different services at more than one of the study facilities, and thus their experiences are of special value, allowing greater relativity in the interpretation of perceptions. There was a common concern among many clients interviewed about Clinic C, the district hospital, due to personal bad experiences, or hearing bad things from others. These opinions were mostly derived from experiences in the OPD or the labour ward, however, and only one client directly compared the ART unit there. This client felt she had been much better treated at Clinic B than the hospital. In contrast, other clients favourably compared Clinic A to their own clinic, either due to hear-say, or their own prior experiences there. There were also clearly certain expectations of standards based on past experiences, which could be contravened:

> *it was very fast in the past but now that's changed as we stay much longer at the hospital […] I think maybe the number of their clients is just getting bigger*

> *all the time, maybe they should also increase the number of nurses as well […] When looking at the time I spent there, now I come out after 12 but in the past I would be out […] by around 10 [Male client, Clinic C, 0304]*

A priori expectations were also related to clients' social circumstances, underscoring the general relativity of satisfaction conceptualisations. For example, a client from Clinic A who had attended fully private clinics in the past complained of short consultation times in the NGO setting of Clinic A. This contrasts with accounts from Clinic C, where several respondents positively contrasted their experience in ART with rural (public) health clinics. These expectations were also related to clients' other world experiences outside of health care; for example, this client relates his opinions to experiences as a businessman:

> *I feel very well taken-care of here. […] It's like they have learnt, not just the health skills, but social and business skills as well. I'm a business person, so I can recognize some of their skills … [Male client, Clinic A, 0403]*

Expectations were also based on rumours about clinics. As noted, rumours about Clinic C were particularly prevalent, yet some clients were able to value their own personal experience beyond the hearsay of others, as this lady demonstrates:

> *I heard people saying here at the [hospital] they don't take care of their clients [...] and so I chose to come here because I wanted to witness what they were saying myself, I then went back to them and told them I had been treated nicely here [Female client, Clinic C, 0303]*

The data also indicate that some clients found it difficult to be critical of care received. Many comments on services were very positive, even by a third round of interviewing; but perhaps more tellingly, there was a tendency to excuse perceived misdemeanours by providers, as exemplified by this client:

> *R: I arrived early but the doctor arrived late […] there's a chance that I won't be able to catch the bus, […] I'll arrive home late.*
>
> *I: So how does that make you feel I[…]?*
>
> *R: well, it's not okay, but because [the doctor] works with a lot of people… if it happens again then I'd realize that maybe he has a bad habit. Otherwise I wouldn't want to judge him by today's delay since it's the first time I'm seeing him do this.*
>
> *[Female client, Clinic A, 0404]*

These data, where poor performance was excused, or juxtaposed with compliments about care, suggest not only a social courtesy bias with an interviewer, but may also demonstrate clients'

relative dependency and lack of power within the medical system. This client, for example, suggests that clients shouldn't complain if they want to get seen:

> *You must give [the doctor] the chance to take care of the other patients and you shouldn't be someone who's in a hurry as you'll also want the doctor to take care of you and also ask you a few things… [Female client, Clinic B, 0102]*

When examining clients' views on clinic experiences, it is important to take these findings into account.

8.3.2 How is satisfaction conceptualised within HCTx, and does this relate to service integration or specialisation?

The data demonstrate that satisfaction and dissatisfaction were constituted by several different dimensions of health care experiences. It is important to examine these dimensions to see how they relate, or not, to service integration.

Access to medical care

in a context where many people delay testing and treatment initiation (and many die), there was an appreciable contentment from the mere fact of accessing life-saving medical care. Satisfaction with the clinic was therefore bound up with satisfaction with the treatment programme, as illustrated by this client:

> *I: Ok how do you feel here at [Clinic C] [...]?*
>
> *R: I've been taken good care of ever since I started because they started by giving me TB pills, they said I had pneumonia, I kept on taking good care of myself even then … you know when they have helped you, you have to thank the fact that they finally saw what was wrong with you, I then gave thanks to that and I then decided to continue using this hospital.*
>
> *[Female client, Clinic C, 0303]*

Whether this treatment was being delivered in an integrated or stand-alone site was irrelevant for many. The fact that the clinics kept them alive fostered an intrinsic trust in the services being provided:

> *I: So, why did you decide to come to [Clinic B]?*
>
> *R: It is a clinic that I trust, each time I come here, I get the right treatment and I'm well again*
>
> *[Female client, Clinic B, 0103]*

Clients particularly valued access to doctors within the ART programme, which previously they may not have had in a health system based on nurse-led primary care, and this was available across all models:

> *…since I tested there's no place I visit more than the hospital. When I have the slightest problem or illness or discomfort, I head straight to the clinic. I don't even use the pharmacies, I just go straight to the doctor. [Female client, Clinic D, 0205]*

As intimated by this client, this appreciation of access to medical care was intertwined with numerous and ongoing health concerns. Clients reported a range of anxieties about their health status, as might be expected within a population with low CD4 counts and high viral loads, including concerns about lumps, rashes, swollen limbs, meningitis, and flu. Dissatisfaction was therefore expressed when clients felt providers were not adequately monitoring their symptoms or addressing health problems related to their HIV, as indicated by this client:

> *R: I told him that I've got flu as I'm coughing and he never asked me when it started, he just looked at me and wrote down something and he gave me an injection and some capsules […]*
>
> *I: how do you feel about him not asking you anything [..]?*
>
> *R: it's not okay, I feel he should have asked me what was happening, […] you don't just say you have a headache and he just writes it down, that is not good for some people like me*
>
> *[Female client, Clinic B, 0102]*

This dissatisfaction is also tied up with concerns about aspects of interpersonal care, discussed further below.

Costs

The costs of services were highlighted by some clients. All clients were theoretically accessing free ART, and there was an evident appreciation if this was the case:

> *I would definitely tell [a friend] to come here to [Clinic D] […] because they would get good service and also be treated well. And the fact that it's free too, all they would need to have is bus fare and that's it […] I wouldn't change, I've already decided to use this clinic and stick to this clinic all my life [Female client, Clinic D, 0206]*

But as reported in Chapter 5, clients could incur costs when attending HCTx services; some would have to pay registration fees, others expenses for drugs or additional treatments beyond the basic medications. While the need to pay fees was not, perhaps surprisingly, a predominant thread in the data on satisfaction, it was one area where integration could actually negatively

impinge on satisfaction. The relatively higher satisfaction scores at Clinic D could clearly have been influenced by the lower costs of care at that site (see page 130). At Clinic A, where relatively high fees were charged for SRH services, there was dissatisfaction with having to pay more for additional services:

> *I: ...how do you feel about the amount you pay here?*
>
> *R: …I wouldn't say it's a lot…but I just don't like that fact that it's separated into bits…when you pay the 23 rand you would expect that that's it… but then you're told you have to pay 18 rand […] they should just make it one fee […] there's just too many bits and pieces, you go for this, you have to pay, you go for that, you have to pay…*
>
> *[Female client, Clinic A, 0402]*

Many clients at Clinic C also felt strongly that HIV services should not be integrated with other health services due to a perception that fees would increase, since clients in the OPD have to pay (unlike the ART clinic where services were free). On the other hand, though, it was recognised that getting everything at once could also save money due to the reduced transport costs associated with multiple visits.

Access to multiple services

Being able to access multiple services through the co-location of different services (either within one room, one building or within the hospital campus) also formed an important dimension of satisfaction, and was clearly related to integration. The convenience of having different types of health services on one site implied complex health needs could be met:

> *when you have a problem with your eyes they also have a doctor for that, and when you have diabetes they check that here… I came here because I had a sore throat and then they said I should test for TB, and I thought they were talking about a different location but it's in the same building, then I went there, so I do everything here […] it's very important that it is all in one place rather than moving from one place to the next and you have to pay wherever you have to go, yet here you get everything [Male client, Clinic C, 0304]*

One client reported that the integration of services at Clinic B had actually facilitated her uptake of ART services at that site. After attending for a skin problem she was encouraged to immediately start treatment (having already tested at Clinic C):

> *I hadn't anticipated them helping me with the HIV treatment 'cause I had only came here for the skin problem…she helped me with the skin problem and then she called the doctor and told him […] that I had done the test and I have my results and the doctor said I should come back…and when I came back the doctor welcomed me well … [Female client, Clinic B, 0102]*

Clients also reported difficulties in accessing family planning services due to inconvenient opening hours (a particular problem for working women in this setting), underlining the important role that integration *could* play to help improve access to care.

But not all clients were able to reap the benefits of multiple service availability, and the size of the facility also impacted on service uptake. The relatively small size of Clinics A, B and D was contrasted positively with the larger hospital site, and clients across all sites stressed the difficulties in attending multiple or referral services in such a large site:

> *I don't want to go to a big hospital, like [Clinic C] which has so many departments, I prefer small clinics. At a small clinic, it's better in the sense that you can walk around without getting tired, and most of the rooms are close to one another. At [Clinic C], they would tell you to go to Room 25, and sometimes you find you don't even know where it is and what to do when you get there [Female client, Clinic B, 0104]*

The relative proximity of the referral service was also important, and being sent further afield seemed to lead to diminishing returns of potential service uptake and decreased satisfaction. Referral down the corridor was even considered difficult at times. Some clients at integrated sites were reluctant to attend SRH services in different rooms:

> *I want to use family planning but it's not ok that I have to go […] to the other side […] because maybe […] you might find nurses who are not like the ones we have this side, and another thing is you have to explain to them and you might find someone who's not easy to talk to, and that is a problem, which is why I'm scared [Female Client, Clinic B, 0102]*

This quote also highlights the importance of continuity of care, discussed further below. However, while seeing one provider was valued by many clients, others seemed to understand that one provider or one clinic could not meet all their health care needs. Some were therefore were willing to 'forgive' the need for referral, and were not dissatisfied when asked to move rooms or facilities. Even when moving between sites was considered problematic financially, this was not considered enough of a problem to consider switching clinics:

> *I:….I didn't feel too good about the money I was spending on the up and down… and I felt bad that they didn't offer the blood at [Clinic D]…but then it's a small clinic obviously they can't have everything (Laughing)*
>
> *I: Hmm… would you leave [Clinic D] for another clinic or another hospital?*
>
> *R: No, I'm happy there, I wouldn't leave…*
>
> *[Female client, Clinic D, 0205]*

Continuity of care

As alluded to above, attending different rooms or clinics also implied seeing new and different providers, and thus the dissatisfaction with referral was also related to the loss of continuity of care. Many clients disliked telling their 'story' time and again, and the aversion to seeing multiple providers was also intertwined with their appreciation for interpersonal facets of care (discussed below), particularly the critical trust that was built up with providers they knew. Seeing different providers and repeating your story was also, understandably, seen to be a waste of clients' time. Furthermore, clients recognized that fragmented care could impinge on the quality of their medical care:

> *I prefer seeing one doctor or going to one place. Seeing too many providers is not good because they all treat you in different ways, and give you different sets of medication. It's just more convenient to see one doctor who knows your background and knows your personal problems […] it's just less stressful, and we know that stress will affect your immune system as well, and we don't want that to happen. [Female client, Clinic D, 0205]*

This benefit was therefore particularly important for HIV clients suffering from diverse medical conditions over time. But as indicated by this client above, the integration of care *within* an HIV-only model (i.e. absence of service fragmentation across different tasks of ART) meant that clients at HIV-only sites still perceived this benefit. Nevertheless, any kind of external referral was still considered a stressful experience:

> *I was used to the people here, and some people don't even treat you very well when you first meet… I think its just humans in general… so going from place to place is very stressful [Female, Clinic D, 0205]*

Service continuity was also appreciated across families. Clients with children or partners with HIV were satisfied when these family members were able to access care in the same clinic or with the same provider. Integrated clinics therefore had an important advantage over stand-alone sites, in particular for accessing child health services.

Technical competence

There was an appreciable satisfaction with provider expertise in HIV, and this was associated with more specialist providers. As one client at Clinic C put it, "they know about HIV" at the HIV clinic, unlike providers in other parts of the hospital. Seeing different specialists was thus seen to have its advantages, despite the inconveniences incurred:

> *how can you be annoyed when you see several nurses 'cause you find that this nurse specializes in this and the one specializes in something else […]? That would mean you don't really care about your health [Male client, Clinic D, 0204]*

The important thing for some clients, therefore, was the clinic's capacity to provide adequate care for PLWH, and the way it was delivered was irrelevant:

> *I: some people may prefer being in a clinic like this where they can get more than one service in one clinic […] what do you think about that?*
>
> *R: I think it's the same, I just think they must all work towards providing adequate care for people with any disease, regardless of what it is*
>
> *[Female client, Clinic C, 0301]*

Assessments of care were not, however, always based on technical criteria. Several statements alluded to poor technical competence, but these were not necessarily reported negatively by clients. Examples included a client with varicose veins being told she could take the injectable contraceptive anyway (Clinic A), being given the incorrect information on the fertile time of the month (Clinic C), failure to diagnose meningitis (Clinic D), being told to eat garlic and avoid fizzy drinks once positive (Clinic D). When technically inaccurate messages were given, clients, lacking the knowledge to question them, would simply interpret them as good advice:

> *they told me that I have to take the 100% fruit juices or [mineral water] and that once you touch the fizzy drinks you're going to pay your forefathers a visit, so they told me and I took their advice. [Male, Clinic D, 0204]*

This highlights the clear difference between measures of technical competence, and measures of satisfaction.

Interpersonal care

The way clients were treated by their providers was very important to them, and the recurrence of this theme in the data across repeated interviews suggested it may have been more important than any other dimension. Many clients were clearly pleased with standards of interpersonal care, and there were multiple and detailed accounts of provider friendliness. Positive statements were associated with being kind, approachable, patient, remembered (by name) by providers, having received good counselling, and being able to ask questions. Conversely, areas of dissatisfaction were therefore the perceived violations of these aspects of interpersonal care, including lack of in-depth counselling, nurses being rude, or being ordered around.

Quality interpersonal care had implications for their medical care and health; one client was particularly effusive:

> *…here, things are good…the nurses are very good, I'm sure you heard the counsellor today, she counselled us very well…if I had the chance I would actually go up to her and tell her she did a very good job. […] Helping you come*

> *to terms with the virus, by telling yourself that you are not 'sickly' and thinking that you are going to die soon. I was able to believe that the treatment will work for me and I will live and feel healthy [Female client, Clinic B, 0104]*

Such perceptions were therefore intertwined with their interactions as a person living with HIV, and the perceived absence of stigmatising attitudes or behaviour from providers, or being "treated like a human" as one put it, was discernible in many accounts. Being respected by providers was valued; for example, this client showed an appreciation for being asked by the providers if sicker clients could jump the queue:

> *[the providers] are helpful and they're good, like when we're queuing and then an ill patient comes in they ask our permission to allow them to take care of that person before us, and then since we can see that that person is worse we agree, 'cause they might die while queuing [Male Client, Clinic D, 0204]*

Related to the standard of interpersonal care, was the perception of provider motivation to meet health needs. Clients were appreciative if they felt providers were working hard for them, for example working through their lunch breaks; and particularly dissatisfied if they felt providers were being lazy, taking long breaks, or leaving early. This concern was not specifically related to integration, however: for example, this client from Clinic D who attended the hospital (Clinic C) for TB care was not bothered about the need for referral, but was bothered about provider behavior motivation:

> *R: I get [my TB meds] at [Clinic C…], there are certain days when you can see the doctor, you see the doctor on Mondays and Thursday…*
>
> *I: does that bother you?*
>
> *R: it doesn't bother me but then I'm just thinking about other people who are in a worse state and when they go there they don't find the doctor […] or he goes on tea break at 10 and you're waiting there and never comes back up until 3 […] We saw another woman there and we thought she might die in front of us*
>
> *[Male client, Clinic D, 0204]*

Efficiency

Concerns about provider laziness were, however, related to dissatisfaction with long waiting times, and it was clear that clients appreciated fast, efficient service delivery. Given the need to return every one to three months for refills, as well as frequent service visits around the time of ART initiation, it is not surprising that protracted waiting times, or longer than normal waiting times, were a frequent complaint.

The capacity to deliver fast services was highlighted particularly at Clinic D, and Chapter 5 indicated that waiting times were indeed significantly shorter there. While the IDI data cannot shed a great deal of light on what made certain clinics more efficient than others, there was a suggestion that stand-alone sites, with a focus only on ART, were able to provide this aspect of care particularly well:

> *I think it's better to be in a place that deals with just HIV. The waiting time is actually very short here… but if you are in a hospital or clinic that has many services available, with the little staff they have, you end up waiting longer. The fact that if it's a specialized place, there will be fewer people who come here, rather than at a larger place with many more departments. [Female client, Clinic D, 0205]*

As this client indicates, however, the short waiting times were also clearly impacted by client load, and therefore not wholly dependent on the model of care. But delivering multiple services in one room was certainly seen as a potential risk to efficiency, with the implication that queues would necessarily become longer. Some clients prioritised efficiency over service access, even at supposedly integrated sites:

> *I:… would you prefer to see one nurse for everything, or are you comfortable with this [current] setup?*
>
> *R: Mhhm, well I don't think one nurse would be able to do everything (Laughing)*
>
> *I: Why not?*
>
> *R: Ah, I'm fine with seeing two different nurses, it's okay that the other one is there as well… otherwise the queues would be too long, but as it is, after seeing one nurse, I just stop by the 2nd nurse and quickly get my pills and go […]*
>
> *[Female client, Clinic A, 0402]*

However, providing everything on one site could lead to time efficiencies for those who did have diverse needs, including pregnant clients or those with TB:

> *It works for me, this setup here at [Clinic C]. The fact that I can get everything here, for my pregnancy needs and also the HIV treatment. It really works fine for me, say for example, I have the same appointment for a scan and checkup and also for treatment at the other side, at the VCT [ART]. Which is also the same as my appointment date at the TB centre, and it works better than, say I'm at [Clinic B] and I have my scan appointment, and then from there have to get a bus and go to another clinic for my ART, and another clinic for something else, like my TB… I think it's better this way [Female client, Clinic C, 0305]*

Thus hospital ART care certainly offered some advantages over other sites for some clients.

As indicated by the client above, achieving efficiency benefits was also dependent on the coordination of care, which was not always achieved, even at integrated sites. As Chapter 5 demonstrated, some clients would need to return on multiple occasions for different services, or wait for long periods in-between receiving different services. Clients also complained if they were unable to access certain services on certain days or at certain times, or if they were sent home without seeing anybody. Arbitrary restrictions on service provision were particularly vexing when costs were implicated with multiple visits:

> *Another thing that they do bad […], when you have come to take your ARVs, they say if you don't come on the right date they tell you to go back. And another thing they say when they're teaching you in the counselling, if you don't listen then they will send you away and tell you to come the following day to get your pills […] They don't think money is involved when you have to come here […] it's because we have different mind-sets as people [Male client, Clinic C, 0302]*

This also highlights the sense of client frustration with providers' lack of consideration of the social realities in which they lived. Conversely, there was an appreciation for fixed appointment systems (in operation at Clinic D, and less effectively at Clinic A), seen to promote more ordered access to care. There was also a consciousness of queuing systems, and betrayal and injustice was expressed if these systems were contravened by providers.

Physical environment

Physical aspects of clinics were mentioned, although rarely. Overcrowding was a concern mentioned by several clients, and this was intertwined with concerns about cleanliness, seating availability in waiting rooms, and waiting times. While overcrowding and client load were independent of integration model, some clients did relate them to service integration: for example, one client at Clinic C feared integration with the OPD due to increased client load, and one client at Clinic D feared an influx of pregnant women following service integration with SRH.

Equity

Lastly, an important theme of equity, or fairness, emerged from this data. Some clients were aware of service entitlements at other sites, and one particular 'sore point' was the delivery of food parcels to those on ART at some sites and not others. Clients at Clinics B and D did not receive this benefit, and those at Clinic C were not always able to access this benefit due to supply problems. It was a particular concern given the extreme poverty in which some clients lived. While some might argue that this was really a supply and management issue, clients'

dissatisfaction stemmed more from the injustice of clients at other sites receiving food, and not themselves. Again, however, this was unrelated to integration.

8.4 Quantitative results on stigma

The degree of service integration also had an important impact on aspects of privacy, confidentiality and risk of involuntary disclosure of status. In addition to these more structural aspects of stigma, social dimensions of stigma within services will also be examined through an exploration of provider attitudes towards PLWH. These dimensions will again be addressed both quantitatively and qualitatively.

The main quantitative outcome measure of interest for experiences of stigma is a client's fear of disclosure by attending the clinic. Before considering this outcome, it is also important to look at measures of pre-existing felt stigma among the client population, i.e. stigma related factors that may influence their feelings about disclosure in the clinic

8.4.1 Pre-existing felt stigma

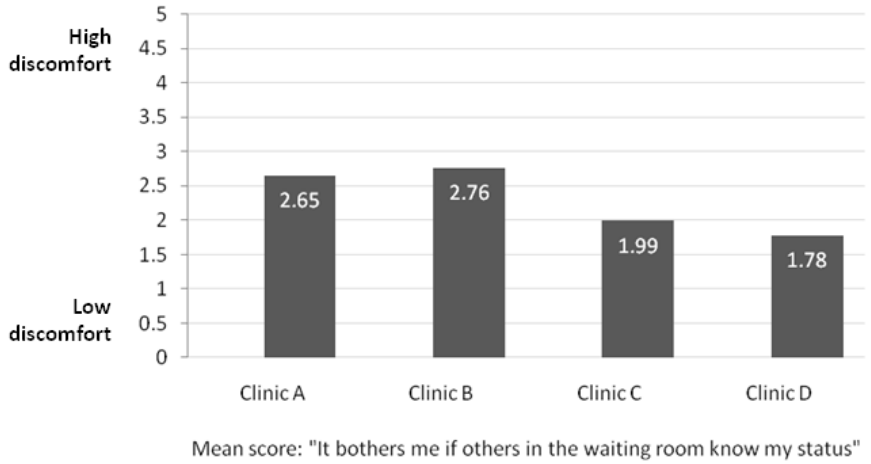
Table 8.5 shows four different measures of pre-existing stigma. Clients were asked to give a mean score on their comfort with others knowing their status in the waiting room ("It bothers me if others in the waiting room know my status"), which varied across clinic (see Table 8.5 and Figure 8.3). Most clients were not bothered if others in the waiting room knew their status (mean score=2.21 (out of 5.00), SD 1.5), however those at the two integrated sites had higher levels of discomfort than those at stand-alone sites (Z test on clinic 'type' exposure (pooling A&B, and C&D) $p<0.001$). Clients were most concerned at Clinic B (score 2.76, SD 1.5), and least concerned at Clinic D (score 1.78, SD 1.1).

Clients also reported a low rate of abandoment by partner (8%). Further, among those who reported having a regular partner (N=497), 13% had not disclosed to them, and there was no siginficant difference in disclosure rates across clinic ($p=0.369$) suggesting pre-existing feelings of stigma may be relatively consistent by model of care.

Table 8.5: Stigma indicators (pre-existing factors) (N=602)

Variable	Clinic A Mean (SD)	Clinic B Mean (SD)	Clinic C Mean (SD)	Clinic D Mean (SD)	All clinics Mean (SD)	F stat (P value)
Comfort in wt. room						
It bothers me if people in the waiting room know my status	2.65 (1.6)	2.76 (1.5)	1.99 (1.5)	1.78 (1.1)	2.21 (1.5)	18.00 (<0.001)
	% (N)	**% (N)**	**% (N)**	**% (N)**	**% (N)**	**P value (χ2)**
Comfort in wt. room						
High comfort level (score <4)	63.4 (45)	67.5 (110)	80.9 (144)	92.6 (176)	78.9 (475)	<0.001
Low comfort level (score ≥4)	36.6 (26)	32.5 (53)	19.1 (34)	7.4 (14)	21.1 (127)	
Abandonment by a partner due to HIV status						
No	94.4 (67)	95.1 (155)	88.8 (158)	91.1 (173)	91.9 (553)	0.150
Yes	5.6 (4)	4.9 (8)	11.2 (20)	8.9 (17)	8.1 (49)	
Total (all clients)	**100.0 (71)**	**100.0 (163)**	**100.0 (178)**	**100.0 (190)**	**100.0 (602)**	
Among those with regular partner (N=497)						
Not disclosed status	8.6 (5)	16.7 (25)	11.2 (16)	13.7 (20)	13.3 (66)	0.369
Disclosed status	91.4 (53)	83.3 (125)	88.8 (127)	86.3 (126)	86.7 (431)	
Total (with regular partner)	**100.0 (58)**	**100.0 (150)**	**100.0 (143)**	**100.0 (146)**	**100.0 (497)**	

Figure 8.3: Mean score on client discomfort in waiting room



8.4.2 Stigma within the clinic environment

Clients were asked to score three different indicators on stigma in the clinic, which are displayed in Table 8.6 and Figure 8.4. There was a general concern among clients that their

status could be revealed by their clinic attendance ("others can find out my status when I come here") (mean 3.06, SD 1.5). Many clients at Clinic C were particularly concerned (score 4.09, SD 1.3). Clients at Clinic D, however, felt most protected with their status, even though it is a stand-alone site (score 2.44, SD 1.4). This outcome on disclosure risk is also presented as a binary variable in the table (score <4, or ≥4) and is examined further in a multivariable analysis below.

The second measure examined whether clients trusted staff to maintiain their status confidentially ("staff might tell others my HIV status without my permission"). The overall score was low (1.76, SD 1.1) (i.e. most felt protected), however those at Clinic A felt most strongly that staff might gossip to others about their status (score 2.08, SD 1.1). Clinics A and D were significantly different from each other (p<0.01), while there was no other statistical difference between sites.

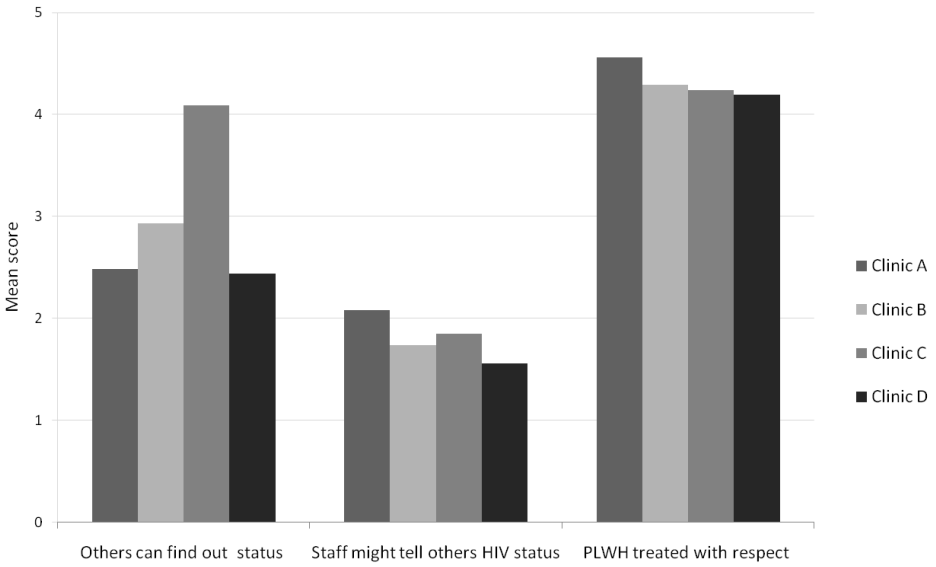
The third measure examined respect for PLWH: most clients felt that staff treated PLWH with respect at their clinic (score 4.28), a figure that showed somewhat weaker evidence of variation across sites (p=0.03). Those who felt most respected were at Clinic A (4.56, SD 0.7), though again only clinics A and D were significantly different to one another (p<0.05).

Table 8.6: Stigma in clinics, by clinic (N=602)

Variable	Clinic A	Clinic B	Clinic C	Clinic D	All clinics	F stat
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	(p value)
Mean score for following statements:						
Others can find out my status when I come here	2.48 (1.2)	2.93 (1.4)	4.09 (1.3)	2.44 (1.4)	3.06 (1.5)	53.12 (<0.001)
Staff might tell others HIV status without my permission	2.08 (1.1)	1.74 (1.0)	1.85 (1.3)	1.56 (0.8)	1.76 (1.1)	4.82 (0.003)
PLWH are treated with respect here	4.56 (0.7)	4.29 (0.8)	4.24 (1.1)	4.19 (1.0)	4.28 (0.9)	2.96 (0.032)
						χ^2
	% (N)	% (N)	% (N)	% (N)	% (N)	p value
Clinic disclosure risk score*						
Low risk disclosure (score <4)	77.5 (55)	54.6 (89)	24.2 (43)	79.5 (151)	56.1 (338)	<0.001
High risk disclosure (score ≥4)	22.5 (16)	45.4 (74)	75.8 (135)	20.5 (39)	43.9 (264)	
Total	**100.0 (71)**	**100.0 (163)**	**100.0 (178)**	**100.0 (190)**	**100.0** (602)	

* Based on variable "Others can find out my status when I come here"

Figure 8.4: Mean stigma scores, by clinic (N=602)



Multivariable analysis of disclosure risk score

Table 8.7 shows both the crude and adjusted odds of the outcome 'high risk disclosure score' (score ≥4 out of 5) by various baseline characteristics, including clinic model.[44] As shown above in Table 8.6, the total proportion of clients with a high risk score (≥4) is 44%. In the crude analysis, clients at Clinics B and C had increased odds of fearing disclosure by attending the clinic than those at Clinic D (cOR 3.22 95%CI 2.02-5.14 & cOR 12.16 95%CI 7.43-19.87). There was no difference between clients at Clinic A and those at Clinic D. Other factors associated with fear of disclosure at clinic in the crude analysis were sex (with weak evidence), age, income, and distance living from the clinic (in cost terms).

The association between clinic model and disclosure risk was also stratified by various potentially interacting variables, but no important effect modifiers were identified. After controlling for all other variables in the table, the odds ratios do not change markedly at Clinics B and C, with clients at both sites still having greater odds of fear of disclosure of their status by attending the clinic, than those at Clinic D (although the effect is much stronger at Clinic C) (aOR 3.37, 95%CI 1.87-6.07 and aOR 13.12, 95%CI 7.29-23.62 respectively). Again there was no statistical difference in fear of disclosure between clients at Clinic A and those at Clinic D.

[44] Two additional baseline covariates are included in this analysis, since perceived risk of status disclosure may be linked to the client's own internalized perceived stigmatization. These variables are a) concern over status disclosure; and b) abandonment by partner due to HIV status. A sensitivity analysis was also conducted to include a model with the variable 'disclosure to a partner' (since this variable was only reported for the sub-group of those with a regular partner).

Table 8.7: Crude and adjusted analysis of association between clinic model and fear of status disclosure (mean score ≥ 4) (N=602)

Variable	Category	N	Disclosure score ≥ 4 N %	cOR 95%CI	aOR* 95%CI
Clinic MODEL	Clinic A	71	16 (22.5)	1.13 (0.58 - 2.18)	0.76 (0.35 - 1.65)
	Clinic B	163	74 (45.4)	3.22 (2.02 - 5.14)	3.37 (1.87 - 6.07)
	Clinic C	178	135 (75.8)	12.16 (7.43 - 19.87)	13.12 (7.29 - 23.62)
	Clinic D	190	39 (20.5)	1.00 --	1.00
Age group	Less than 25	99	42 (42.4)	0.81 (0.50 - 1.31)	0.82 (0.44 - 1.54)
	25-29	137	64 (46.7)	0.97 (0.63 - 1.48)	0.91 (0.53 - 1.57)
	30-39	225	107 (47.6)	1.00 --	1.00
	40 or over	141	51 (36.2)	0.62 (0.41 - 0.96)	0.46 (0.25 - 0.85)
Sex	Male	127	49 (38.6)	0.76 (0.51 - 1.13)	0.80 (0.46 - 1.39)
	Female	475	215 (45.3)	1.00 --	1.00
Marital status	Unmarried	292	127 (43.5)	0.97 (0.70 - 1.34)	1.00
	Married/living w/ptnr	310	137 (44.2)	1.00 --	1.08 (0.70 - 1.67)
Education	None	46	20 (43.5)	1.09 (0.59 - 2.03)	0.67 (0.30 - 1.50)
	0-7 yrs (primary)	159	80 (50.3)	1.44 (0.99 - 2.10)	0.99 (0.61 - 1.61)
	8-12 yrs (secondary)	356	147 (41.3)	1.00 --	1.00
	>=12 yrs (college)	41	17 (41.5)	1.01 (0.52 - 1.94)	1.38 (0.61 - 3.11)
Average monthly income	E<500	204	104 (51.0)	1.00 --	1.00
	E500-999	155	72 (46.5)	0.83 (0.55 - 1.27)	0.85 (0.49 - 1.47)
	E1000-4999	194	72 (37.1)	0.57 (0.38 - 0.85)	0.80 (0.47 - 1.36)
	>=E5000	49	16 (32.7)	0.47 (0.24 - 0.90)	1.07 (0.44 - 2.61)
Distance from clinic (cost)	E0-E5	274	114 (41.6)	1.00 --	1.00
	E6-E10	143	56 (39.2)	0.90 (0.60 - 1.37)	0.87 (0.53 - 1.43)
	E11-E20	122	58 (47.5)	1.27 (0.83 - 1.95)	1.03 (0.59 - 1.81)
	>E20	63	36 (57.1)	1.87 (1.08 - 3.26)	2.92 (1.43 - 5.97)
No. sex partners in past 12 months	None	95	41 (43.2)	0.98 (0.63 - 1.54)	1.14 (0.60 - 2.16)
	1 sex partner	424	185 (43.6)	1.00 --	1.00
	2-3 sex partners	69	32 (46.4)	1.12 (0.67 - 1.86)	0.87 (0.46 - 1.67)
	>=4 sex partners	14	6 (42.9)	0.97 (0.33 - 2.84)	1.33 (0.37 - 4.80)
No. living children	No children	88	35 (39.8)	0.75 (0.46 - 1.22)	0.65 (0.36 - 1.16)
	1-2 children	293	137 (46.8)	1.00 --	1.00
	3-4 children	150	59 (39.3)	0.74 (0.49 - 1.10)	0.69 (0.41 - 1.17)
	5 or more children	71	33 (46.5)	0.99 (0.59 - 1.66)	1.09 (0.50 - 2.37)
Current pregnancy	No	513	226 (44.1)	1.00 --	1.00
	Yes	89	38 (42.7)	0.95 (0.60 - 1.49)	0.92 (0.45 - 1.88)
Client type	Pre-ART	68	24 (35.3)	0.67 (0.39 - 1.15)	2.12 (0.58 - 7.76)
	ART initiation	25	14 (56.0)	1.57 (0.69 - 3.54)	2.71 (0.80 - 9.10)
	ART refill	395	177 (44.8)	1.00 --	1.00
	ART user consult	75	33 (44.0)	0.97 (0.59 - 1.59)	0.95 (0.51 - 1.77)
	PMTCT/Infant HIV	39	16 (41.0)	0.86 (0.44 - 1.67)	1.56 (0.47 - 5.11)
Time enrolled at clinic	<6 months	228	96 (42.1)	1.34 (0.93 - 1.93)	1.10 (0.69 - 1.76)
	6 months - 2 years	264	93 (35.2)	1.00 --	1.00
	> 2 years	110	75 (68.2)	3.94 (2.45 - 6.33)	2.28 (1.27 - 4.08)
On ARVs	No	107	38 (35.5)	0.66 (0.42 - 1.01)	0.39 (0.13 - 1.20)
	Yes	495	226 (45.7)	1.00 --	1.00
CD4 count	<50	42	16 (38.1)	0.74 (0.39 - 1.44)	0.99 (0.43 - 2.27)
	51-200	192	85 (44.3)	0.96 (0.67 - 1.37)	1.38 (0.87 - 2.18)
	>200	347	157 (45.2)	1.00 --	1.00
	No CD4 count	21	6 (28.6)	0.48 (0.18 - 1.28)	0.39 (0.12 - 1.27)
TB treatment	No treatment	574	254 (44.3)	1.00 --	1.00
	On treatment	28	10 (35.7)	0.70 (0.32 - 1.54)	0.36 (0.14 - 0.97)
Client comfort in waitin room	High comf in wt rm	475	203 (42.7)	1.00 --	1.00
	Low comf in wt rm	127	61 (48.0)	1.24 (0.84 - 1.83)	1.15 (0.71 - 1.86)
Abandonment by partner due to HIV	No	553	239 (43.2)	1.00 --	1.00
	Yes (abandoned)	49	25 (51.0)	1.37 (0.76 - 2.46)	1.27 (0.61 - 2.66)

*Adjusted for all other variables in table

Other factors associated with fear of disclosure at the clinic were older age, with those over 40 having lower odds of fearing disclosure (aOR 0.46, 95%CI 0.25-0.85); living further away from the clinic (in cost terms), with those who pay over E20 having nearly three times the odds of fearing disclosure (aOR 2.92, 95%CI 1.43-5.97); time enrolled at the clinic, with those enrolled over 2 years having more than double the odds of fear disclosure (aOR 2.28, 95%CI 1.27-4.08) (although there was no difference between those enrolled <6 months, and those enrolled 6 months-2 years); and being on TB treatment, with those on treatment having over 60% lower odds of fearing disclosure than those not on treatment (aOR 0.36, 95%CI 0.13-0.96).[45]

8.5 Qualitative exploration of stigma

This section explores qualitatively the relationship between clinic attendance and feelings of felt stigma, or enacted stigma by providers. It aims to examine to what extent the model of care influenced these perceptions of stigma; drawing on both client and provider IDI data.

8.5.1 Structural model and stigma

Most clients, across all sites, felt some level of discomfort about attending ART clinics, caused primarily by fear of HIV status disclosure. A particular concern was bumping into people they knew, and there was a general sense of shame about having HIV, as this client shows:

> *there are too many of us, so you find that even a person who doesn't know you will end up knowing the kind of life you are living [Female, Clinic B, 0102]*

Anxiety about attending an HIV clinic was also related to clients' own acceptance of their HIV status. Thus some of those who were most uncomfortable in the clinics were those who hadn't managed to tell partners, family or friends about their status. Acceptance of status and increasing comfort in HIV clinics were seen as a gradual progression:

> *I think maybe at first I had a problem [coming to the clinic] but now I'm fine […] you see, when you haven't accepted the situation yourself, so when someone finds you in this clinic they just know what kind of a clinic this is [Female, Clinic D, 0203]*

[45] A further sensitivity analysis was conducted to test for residual confounding in baseline data on pre-existing felt stigma, since only two variables were included (client concern over status disclosure; and abandonment by partner due to HIV status). A second model included the variable "disclosed to partner", which was limited to the sample of those with a regular partner (N=490). Inclusion of this variable did not improve the fit of the data to the model (likelihood ratio test p=0.31) or alter the association between clinic and disclosure risk, so the whole sample was used omitting this variable.

The data also suggest that clients selectively chose certain clinics due to pre-existing concerns over privacy and confidentiality. Clients who were most concerned about privacy and revelation of their status seemed to have purposefully selected Clinic A as it was considered to offer a particularly private environment. This was supported by quantitative data presented earlier which showed a high proportion of clients choosing the site for confidentiality reasons. Providers reported that clients there would not even want to attend organised support groups "because they feel exposed". Heightened fears about confidentiality may explain why concerns about staff gossiping found in the quantitative survey were particularly high at this site. But the data also suggest that the relationship between clinic model, privacy and fear or disclosure was complex.

For some clients, the integrated organisation of services clearly helped to protect their identity as a PLWH, in particular when it was perceived that there was no specific room for ART services:

> *someone who has come for treatment sits on the same bench [as others] then they go to see the doctor […] which is different to other hospitals where it's even written or labeled on the doors where it's obvious that you're going for VCT services. So here it's okay, when I'm waiting for the doctor nobody knows why I'm seeing the doctor, it's only me and the doctor who are aware of what I've come here for [Female, Clinic A, 0401]*

As this client suggests, an integrated structure implied you could "blend with the rest", get your drugs from the same dispensary as others, and avoid being isolated as a PLWH. Clinic A, where theoretically there was no specific HIV nurse or doctor, was found to be particularly effective at delivering this benefit by the IDI clients.

However, across both integrated sites, it was clear that HIV status could be revealed anyway. Signs that indicated a client was attending for ART included collecting food parcels (only for ART clients), carrying the green ART cards (which clients reportedly tried to always hide or cover up), or attending the doctor's room. Thus, even in the most integrated site, some clients were still uncomfortable:

> *I: … how comfortable are you in the waiting area?*
>
> *R: It does get uncomfortable especially when there are a lot of people in there. Sometimes even if people don't ask you, you feel like they somehow know why you came here (Laughing) And then there's the food they give you right when you walk out. I've decided I'm not taking the food again….*
>
> *[Female client, Clinic A, 0405]*

The provision of ART care in specific rooms at Clinic B was particularly problematic, suggesting that a facility-level model of integration may be more uncomfortable for HIV clients than a provider-level integration model. While some clients there did feel that integration helped prevent isolation as a PLWH, there was still a clear sense of discomfort, with the specific ART room implying that "people can see that that queue is for those who are positive". Furthermore, providers were considered to contribute to risk of disclosure by calling ART clients to collect pills:

> *R: …[the nurses] announced that those who were there to get pills needed to go to room 3*
>
> *I: And how do you feel about that? […]*
>
> *R: I think that was really bad because everyone was just sitting in the waiting room, and nobody was paying attention to what others were there for…then all of a sudden we have to get up because we're the ones that've been called. People didn't need to know…*
>
> *[Female client, Clinic B, 0105]*

While stigmatisation persisted at integrated sites, at stand-alone sites there in fact seemed to be lower levels of discomfort. In general, an increasing comfort over time in waiting rooms at these sites was mostly attributed to clients talking to and being encouraged by other clients:

> *I: Since [Clinic D] is a clinic only dealing with HIV positive people, does that bother you somehow?*
>
> *R: I actually thought about that when I first started here, but seeing people who're in the same situation as me encouraged me. So I don't feel like an outcast anymore. […] I usually see some clients more often so we end up talking …usually we talk about how we were when we first came here, our health, and how it's improved.*
>
> *[Male client, Clinic D, 0201]*

The very act of talking about their health and other situations was considered to be therapeutic, and it was also reported to help with drug adherence. For some, this was the only opportunity to be open about their status, since disclosure at home was too difficult:

> *I: are there any people that you have already told about your positive status […]?*
>
> *R: […] there isn't anyone, sister, I only tell those that I find at the clinic when I go collect my pills, they talk about their situations and I also find myself sharing mine, but when it comes to my family, it's still a challenge (laughing), so I haven't told them.*
>
> *[Female client, Clinic C, 0301]*

Therefore, in contrast to claims that attendance at an HIV clinic involves an automatic disclosure of status, it was clear that many clients at these sites felt their status was kept confidential *because* everybody else there was positive. Clients who formerly hid their pills, felt free to be open:

> *R:…at first I'd put the pills in a plastic bag so that they couldn't see them, but now I don't care as I can carry them as they are*
>
> *I: without a problem?*
>
> *R: [...] yes, I feel free and at the hospital when you meet others like yourself you talk, and they're also not afraid anymore, we no longer discriminate against each other, there is no one who thinks he's better than the other*
>
> *[Male client, Clinic C, 0304]*

The perception that stand-alone HIV sites were relatively comfortable for many HIV clients was supported by many providers at Clinics C and D, although it was pointed out that some clients would always feel uncomfortable.

The capacity to be open about their HIV status and interact with other PLWH contrasted with experiences of those at integrated sites. For example, there were some clients at Clinic B who were keen to chat with others in their end of the waiting room, but found it difficult to identify HIV positive clients, as suggested here:

> *we chat, <u>but it's difficult as you're not going to see the client carrying the card</u> because they only take it out in the doctor's room or the nurse's, you might see from the drugs they carry that they're in your group.*
>
> *[Male client, Clinic B, 0101]*

At Clinic A, a respondent noted that clients there were often too scared to talk to each other, suggesting that a potential for group 'therapy' may be being missed.

Steps taken by the clinic management also clearly helped to assuage clients' potential discomfort, across all models. At Clinic D, there was a noticed improvement after the waiting room was separated from the VCT waiting room, implying clients could feel confident that those around them also had the virus:

> *where they put us now, I'm more comfortable because I know that everyone who is here has the same virus, even if it's someone from around your area you don't feel embarrassed, not like the front area [VCT] where everyone is just moving in and out [Female client, Clinic D, 0206]*

The clinic also didn't label itself as an HIV clinic, rather calling itself a 'Help Centre'. Providers there also purposefully tried to get clients to open up about their status and confront stigma head-on through group counseling sessions:

> *We are talking "please, we have got one common problem here and our common problem is this" and you find [clients] are very much willing, they are talking […] So it's like I think sometimes we need to be expose these clients and make them accept that they have [HIV], it won't be easy, I think stigma and discrimination, the only way we can fight it is by creating an enabling environment for those affected to meet [Provider, Clinic D, 0201]*

At Clinic A, concerns about collecting ARVs from the general dispensary window were addressed by inviting all clients to collect any drugs one by one *inside* the dispensary, rather than through a public window. New filing systems were also developed there to ensure all clients used the same coloured files, and a new drugs form was developed to be used instead of the noticeable green refill cards. At the time of the study, there were even plans afoot at Clinic A to hire a triaging nurse who clients would see in a closed room in order to disclose the reason for their visit. At Clinic B, there was a conscious decision made not to label the ART room as such, rather calling it 'Room 3'. Some providers, though, were evidently frustrated that discomfort persisted despite these measures:

> *stigma will always be there, because now they know that everyone who comes to this Room [3] must be HIV positive, which isn't true, but they think those who come this side are positive and that side are children and others who aren't positive [Provider, Clinic B, 0104]*

Furthermore, providers' proposals to reduce stigma did not always take into account the views of their clients. Some providers at Clinic C felt that integrating the ART unit with the main hospital building and centralizing the services into the general OPD would help overcome stigma; but as indicated above, and through the quantitative data, clients there actually preferred being in a separate ART unit.

8.5.2 Enacted stigma by providers

Literature discussed in Chapter 2 demonstrated that HIV positive clients are also at risk of enacted stigma by providers themselves. Was this prevalent in this context and was it related to service integration?

Both provider and client interviews demonstrated positive provider attitudes towards their HIV-infected clients, and little evidence was found of provider-led stigmatization. Some clients even felt they were better treated now that they were positive:

> *their service is very good, and it's even better when you've tested and you know your status (Laughing). I was talking to someone at work the other day...and she said when she went to her clinic, they treated the people who had tested better than the rest...so maybe the services are better for people who are positive...or people who have tested [Female client, Clinic A, 0402]*

No providers talked in openly disparaging or derogatory tones about their clients, nor did they reproach them for promiscuous behaviour or for contracting the virus. Rather, several providers felt empathy towards PLWH, and recognised that many people in the Swazi context had a high likelihood of contracting the virus:

> *if we just tell ourselves that the HIV positive people may differ, it means that somehow somewhere we are discriminating against them. All of the people need the SRH services. Because if you are HIV negative, one of the good days you might, you may become HIV positive. So I think we just have to render the services equally [Provider, Clinic B, 0101]*

Providers, across all sites, reported emotionally gratifying experiences from having helped their clients recover from terrible illness prior to starting ART. These data thus help to explain the very high scores of respect towards PLWH found in the quantitative survey.

However, in contrast to these accounts, an undertone in a few interviews revealed a certain 'othering' of clients by providers, for example by recounting that clients "stigmatize each other". In the context of an account trying to demonstrate that she treats PLWH equally to other patients, another provider even admitted to previously finding it hard to physically touch PLWH (albeit in the past):

> *I: it must be quite rewarding [working with HIV patients]*
>
> *R: very, very much and even when you sort of come across to them, I never thought like when I was with an HIV client or person, there will be a time whereby you actually, due to excitement, you end up hugging, but some of them, they come straight to you, shake hands, they hug you, give you a pat at the back – and we do the same*
>
> *[Provider, Clinic C, 0305]*

On the whole, these perceptions were not related to integration but more to providers' own level of comfort with PLWH (in turn influenced by their personal experiences with HIV). However, there was a suggestion that providers from sites that previously provided only SRH services might find it difficult to offer services to 'sick' HIV patients, as this provider indicates:

> *One of the nurses who left here was complaining about that, since this ART thing started coming here, there's more work...they don't like it I think...[there's an] added responsibility – they are used to you know, their healthy patients coming for contraception and ANC, and all of a sudden you only have sick*

> *patients. Some of the nurses left the hospital because they were tired of that. Ja, it is emotionally draining too [Provider, Clinic A, 0404]*

As this quotation suggests though, part of this dislike of working with PLWH was related to an additional work burden; there were certainly no client data to suggest that those at Clinic A felt badly treated by SRH providers.

One clearer way in which integration could impact on enacted stigmatisation, though, is through provider attitudes towards sexual behaviour and childbearing among PLWH. One might hypothesise that those offering SRH services might have a greater understanding of the sexual desires and behaviours of their clients. A provider at Clinic A acknowledged this perception, highlighting beliefs among other providers that PLWH should not have children; it was stressed that the medical profession had more work to do to change its own beliefs:

> *there's been this perception that when you are HIV positive the doctors and the nurses say you should not even dare have a baby (laughs) So, people still believe that, and it is our fault as the medical and we haven't you know, changed that in terms of our own, you know, beliefs [Provider, Clinic A, 0404]*

However, most providers in this sample reiterated the importance of focusing of the rights of PLWH to have children, and there was no suggestion that this was different in stand-alone sites. As discussed in Chapter 6, provider attitudes to pregnancy were driven primarily by biomedical concerns about the health impacts of a pregnancy on WLWH, rather than any moralistic accounts about PLWH having children. Providers whose clients wanted to have children reported supportive attitudes to help them achieve this, once their health had improved.

8.6 Summary and discussion

This chapter has demonstrated that relationships between integrated care and satisfaction and stigma are complex. The main findings of this chapter are now summarised.

Most clients across all service models were highly satisfied with their HIV care. The encouraging quantitative results of high scores on a range of service attributes were sustained through in-depth probing in qualitative interviews. This study has demonstrated that different clients appreciate different aspects of their HIVcare and some either choose or appreciate their service according to these specific attributes. However, conceptualisations of satisfaction were relative, changeable over time and across different dimensions of care, and also dependent on the actions of individual providers, making assessments of a single clinic more ambiguous. A priori expectations based on previous experiences with the health sector or based on social status (primarily education), were also important in determining satisfaction, a common finding in in-

depth satisfaction studies (Sitzia & Wood, 1997). The relativity of the construct therefore underlines the importance of using qualitative data to unpack its meaning and explore the potential mechanisms through which a structure of care can impact on satisfaction. It is also worth noting that high satisfaction scores may, therefore, also be attributable to a lack of experience with other clinics, and thus to what has been termed the human "need for the familiar", whereby socially created expectations determine clients' satisfaction with care (Fiztpatrick (1984) cited in Sitzia & Wood, 1997). This suggests that people may like what they know, in particular when they are unaware of other ways of doing things.

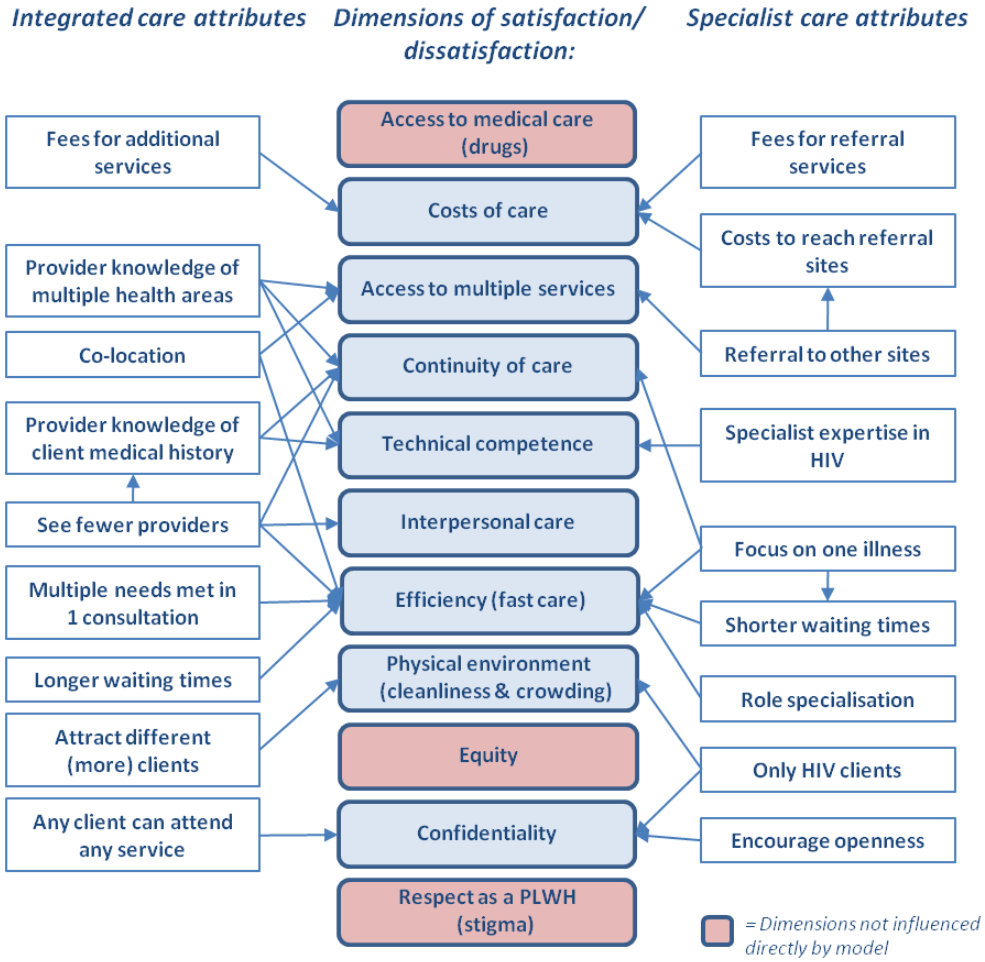
The qualitative data suggest that satisfaction and dissatisfaction were constituted by a range of different dimensions of care, as summarised in Figure 8.5. Some of these dimensions were unrelated to the model of service delivery (highlighted in red boxes). Integration or specialisation had little direct bearing on access to drugs, on equity of service delivery across the health system, or on enacted stigma by providers. Furthermore, the high importance placed on access to life-saving medical care also makes it even hard to disentangle satisfaction with the treatment programme from satisfaction with the clinic.

Other dimensions of satisfaction were, however, influenced by the model of care, more or less directly, including costs of care, access to multiple services, continuity of care, technical competence, interpersonal care, efficiency, aspects of the physical environment, and confidentiality of care. Some attributes of integrated care increased satisfaction, for example reducing need for referrals or having to tell your story less often; but some aspects decreased it, for example having longer queues, or having to pay more for additional services. These perceived attributes closely correlate with qualitative explorations of satisfaction in other countries, including theoretical work on satisfaction with health services in developed countries (Ware et al., 1983). But some were evidently particularly important for those living with HIV, in particular confidentiality. Attributes of stand-alone models were equally differentiated in their impact on satisfaction; specialist knowledge about HIV, for example, contrasting with increased need for referrals. The differing attributes of stand-alone and integrated care were also appreciated and disliked in different ways. For example, one critical dimension of care for this group was the capacity to deliver fast services; while this was attributable to HIV-only clinics due to their focus on one disease, integrated care could also deliver efficiencies, in particular for those with multiple health needs who could get everything done in one consultation. The potential benefits of integration were therefore highly intertwined with client needs. Some of the attributes were related to each other, for example seeing fewer providers in an integrated model was related to providers having greater medical history on the client. Some are also

negative impacts; for example longer waiting times in an integrated model has a negative impact on efficiency.

Furthermore, while not always explicit in the data, the achievement of the benefits of integration or specialisation may also mediated by other external factors. Many of these factors constitute the 'context' of service integration which will be addressed in the next chapter. For example, factors such as client load or clinic management could mediate the impact of integration model on waiting times and efficiency; or costs to reach referral sites are likely to be impacted by the geographic distance to referral. It is perhaps for this reason that quantitative satisfaction measures were divided more across public/NGO lines, rather than integrated/stand-alone.

Figure 8.5: Relationship between integration and client satisfaction



The standard of interpersonal care was also emphasised as a specific concern, and the friendliness of providers was highlighted as an important criterion for choosing a clinic. Considering the seeming (and understandable) incapacity of clients to make judgements about technical competence of medical professionals, and the relative dependency of clients on them in order to survive, it not surprising that 'niceness' rates highly. Interpersonal factors have been found elsewhere to be the most important dimensions of satisfaction, in particular provider friendliness and confidentiality (Campbell et al., 2000; Weston et al., 2009). For the most part, though, the capacity to provide quality interpersonal care seemed uninfluenced by service integration, and providers at Clinic D evidently had strong interpersonal skills. Seeing fewer providers, however, did increase clients' trust in them, and reduced service fragmentation within HIV care itself was valued. Interpersonal care will also be explored further in the next chapter looking at contextual factors influencing integration.

Confidentiality and stigmatisation associated with involuntary disclosure of status were aspects where service model did clearly impact on the client experience and satisfaction, and specific aspects of service organisation increased this risk. While integrated sites offered protection of privacy in a generalist environment for some, this benefit was not universal. Various aspects of service organisation breeched confidentiality, in particular where there were distinct HIV rooms (i.e. Clinic B), including name calling, room labelling, providing food packages to ART clients, requiring clients to carry specific ART cards, and drug dispensing systems. Clients at Clinic B thus had over three times greater odds of feeling that their status would be disclosed than those at the most specialist site, Clinic D. The hospital model, Clinic C, also incurred risks of status disclosure, with clients there having 13 times greater odds of feeling their status could be revealed than the more discrete small stand-alone Clinic D. However, many clients at stand-alone sites were not bothered if others knew what they came for, and there was also a perceptible comfort and mutual support gained in the waiting room from other HIV positive clients. A therapeutic effect of HIV status disclosure have been highlighted elsewhere (Greeff et al., 2008), and a study in Zambia also found that clients gained companionship and mutual support in stand-alone services (Topp et al., 2010). While not demonstrated in this study, others have found that peer interactions help women to deal with difficult decisions related to HIV, including childbearing decisions (Agadjanian & Hayford, 2009). The benefit of mutual support was therefore unavailable to those in integrated sites, some of whom would not even attend support groups. Furthermore, there was little evidence of enacted social stigmatisation by providers in this setting, contrary to other reports in the region (Greeff et al., 2008; Nyblade et al., 2009), and no suggestion that provider attitudes were related to integration. High levels

of respect for PLWH reported by clients were encouraging, as well as supportive attitudes among providers for those who wanted children.

There are also some important methodological limitations that should also be briefly addressed here. The higher survey refusal rates at Clinics A and B (see page 94) may have biased satisfaction and stigma measurements. Clients dissatisfied with services may have selectively chosen not to interview, or indeed chosen purposefully to interview, and this suggests an overestimation of satisfaction in Clinics C and D. Secondly, measures of satisfaction captured in the survey are subject to strong reporting bias from a courtesy effect, and should not be interpreted on their own as an objective measure of satisfaction. Thus, the triangulation of data in this chapter has been particularly important.

Further bias is introduced using the scale approach, including satisficing and acquiescence.[46] Scale data are also subject to end avoidance (extreme answers not selected) and positive skew (favouring of positive responses), leading to skewed response distributions (Katz, 2006), which was the case with these scores. As noted earlier, the presentation of median scores would be more reliable estimates, but would have made cross-clinic comparisons more challenging. However, qualitative data mostly supported and explained the patterns identified in the quantitative findings, adding weight to their validity. Thirdly, indices on accessibility (cost, opening hours and location) were not included in satisfaction scales since they were not included in early Integra instruments (focused more on quality of care than satisfaction), and these themes did not arise in early transcript reviews of qualitative data (prior to questionnaire design). Accessibility has been identified elsewhere as among the most important criteria for satisfaction within sexual health services (Weston et al., 2009), as this is supported by data on reasons for choice of clinic in this dataset. Costs of services have been found in other studies to be particularly dissatisfactory for PLWH when they are unexpected (Nabbuye-Sekandi et al., 2011; Burke-Miller et al., 2006), and can also ultimately impact on adherence to ART (Hardon et al., 2007). Thus these are important omissions that could have enhanced the validity of the index. Lastly, there is further scope for methodological work on the scaling techniques used, which is discussed in the final discussion chapter.

[46] Satisficing occurs when respondents give what they consider to be a 'satisfactory' rather than optimal answer, e.g. to select the first response that seems reasonable, rather than considering all the options. Acquiescence occurs when respondents are more likely to agree than disagree with statements. To reduce acquiescence bias, it would have been advisable to balance scale items with both positive and negative items.

Summary of main findings (Chapter 8):

- Very high levels of client satisfaction, across all models, were reported, but IDIs repeated over time also demonstrated an on-going satisfaction with HCTx services in this context.
- Satisfaction was a relative concept, influenced by previous health system experiences, social situations and related a priori expectations. It also changed over time, and was often attributable to individual providers rather than a whole clinic. Quantitative regression analysis on a mean satisfaction score, controlling for client characteristics, also suggested it lay more along public/private than integrated/specialist lines.
- Different dimensions of care contributed to satisfaction or dissatisfaction; key aspects included access to medical care and life-saving drugs, friendly interactions with providers and waiting times. While some dimensions of satisfaction were unrelated to service integration, others were positively or negatively influenced by attributes of integrated or specialist care.
- A reduced need for referral and associated costs, the need to see fewer providers and repeat their 'story', provider knowledge of multiple health areas, and perceived increased confidentiality in a generalist setting all were associated with integrated care. Specialist knowledge in HIV (and perceived quality), a focus on one illness, shorter waiting times, and perceived confidentiality by having only HIV clients around were associated with stand-alone sites.
- Assumptions about greater stigmatisation in stand-alone sites were not supported by these findings. Confidentiality could be breeched in integrated sites by room labelling, name-calling, provision of food packages, ART cards and dispensing systems. Confidentiality was maintained in stand-alone sites by careful clinic labelling, and discrete waiting areas. Greater psycho-social mutual client support could also be achieved in an HIV-only environment, which was appreciated by clients.
- Consequently, the majority of clients in stand-alone sites reported a preference to keep HCTx separated from other health services, and odds of fear of disclosure of status were highest at sites where these protective mechanisms were not in place (Clinics B and C); a stand-alone site were therefore not necessarily stigmatising to clients.

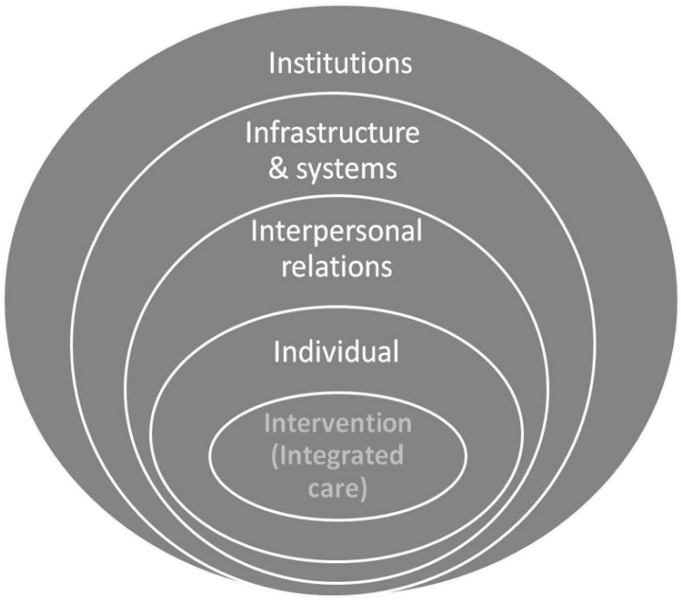
9. The context of service integration

Introduction

As discussed in the theoretical review (Chapter 3), the context in which new policies and organisational systems are implemented is crucial for their effective adoption. Previous chapters have not only suggested that stand-alone sites can be equally effective in achieving certain SRH outcomes, but also that the integrated sites may not be achieving the levels of integration that they purport to deliver. Data presented in this chapter will seek to explain these patterns. The findings presented are derived from qualitative data only.

An adaptation of Pawson's Implementation Framework (Pawson, 2006), presented in Chapter 3, is shown below in Figure 9.1. Institutional factors are considered here as the outer layer of context (rather than the third layer), influencing all other layers. Infrastructure and systems are considered together, since the influence of health systems in health policy implementation is fundamental (Gilson et al., 2011). The aim of the chapter is to analyse the contextual factors that impact upon the provision of integrated care across the clinics.

Figure 9.1: Contextual layers in policy implementation



Source: adapted from Pawson (2006) and Gilson (2010)

Factors at the individual level focus on individual capacities and motivations of providers to deliver integrated care. As discussed in Chapter 2, providers play a pivotal role in health policy implementation. While developing guidelines, conducting training, or making supplies available may be prerequisites to achieving integrated care, it is down to the provider within a single consultation to translate the policy into the provision of integrated care in practice.

Interpersonal factors include the social dynamics between clients and providers, as well as the inter-professional relationships between providers themselves. Moving beyond a presenting condition to explore or address other health care needs may require providers to spend more time with clients, to step into areas of service provision with which they are unfamiliar, or to stray from routines of 'normal' care. The author and others have hypothesised that adopting a more 'client-centred' approach is a prerequisite to delivering holistic, integrated health care (Church & Lewin, 2010). To what extent is this feasible in the context of ART delivery in Swaziland where ever-increasing numbers of clients may prevent in-depth exploration of client needs and situations? And to what extent do clients want such a model of care, given the previous chapter's findings on client desires for swift service delivery?

Infrastructural and systems factors are related to interpersonal factors, since they may determine the extent to which more client-centred integrated approaches are feasible. They include staffing challenges and time-pressures faced by providers, as well as the physical infrastructure of facilities which may enhance or inhibit integrated approaches. It also covers the equipment and supplies required to deliver integrated care.

Lastly institutional factors relate to the character and ethos of the environment in which a programme is being implemented. As such, they are perhaps less tangible than other contextual factors. They include the institutional (and managerial) support for integration (including policy support for integration), the institutional support to deliver a more client-centred and high quality model of patient care, and the historical context of the clinic model (i.e. SRH clinics vs HIV clinics).

Before presenting the results, it is important to note here that this chapter focuses on how integrated care is being provided, rather than received by clients. Previous chapters have highlighted that the client response to integration is important; this includes their perceived needs for SRH services (which were found to change over time), their capacity to act on the SRH advice given by providers (influenced by socio-cultural norms), as well as their desire to receive

additional services to their HIV care within one consultation (less than expected, due to perceptions of increased waiting times).

9.1 Methods

This chapter utilises only qualitative methods to explore the contextual factors influencing the delivery of integrated services. As outlined in Chapter 4 (Methodology) this includes in-depth interviews with 16 health care providers (5 doctors and 11 nurses) and with 22 clients initiating ART, across the four sites. It is also supplemented by observations made by the research team during their data collection activities at the four clinics. Data were analysed through an iterative process of coding, abstraction and thematic analysis. As with previous qualitative components, points of particular note in data extracts have been underlined by the author.

9.2 Factors at the individual provider level

An analysis of the data suggests that factors influencing integration at the individual provider level fall into three main areas: firstly, the skills required to deliver integrated care, and by association, their perceived professional role (HIV vs SRH); secondly, the perceived benefits, or risks, of delivering integrated care; and thirdly their own self-motivation to meet client needs. These findings are drawn from providers' experiences of integration (Clinics A and B) or perceptions if care were to become integrated (Clinics C and D).

9.2.1 Provider skills & professional role

All providers had received basic SRH training in pre-service nursing or medical school, yet more recent in-service training was seen to be a pre-requisite to delivering relevant services to PLWH within HIV clinics. While STI training and positive prevention formed core aspects of HIV care (and training), it was the contraceptive component, in particular, where skills shortages restricted capacity to integrate care:

> *I think we also need the training, ja, because really, those guys in MCH, they are the ones who get trained about this family planning one, so, whereas we also meet these women who need this family planning and I think it might help to have workshops on family planning as well [Provider, Clinic C, 0301]*

Those who had been on recent courses felt "well equipped" to address the SRH needs of their clients, while those lacking training requested that their skills be updated in this area. Recent training was not dependent on model, however: some providers at Clinic B complained of not

having received sufficient SRH training, and conversely, at Clinic D, weekly in-service training sessions had contributed to skills-building on SRH for PLWH at their clinic:

> *all the cadres under that facility should also have the know-how of the services being delivered there so that you don't appear like you don't know reproductive health in conjunction with HIV/AIDS. When the client asks you, you should be able to actually give some skeletal information before you actually surrender or refer the client to the expert personnel who will be dealing with that [Provider, Clinic D, 0201]*

Skills development in SRH was therefore not restricted to integrated sites: having this "skeletal information" on SRH facilitated the provision of more holistic health care to PLWH (which, as noted in previous chapters, was primarily achieved through more effective condom promotion at Clinic D), even when other contraceptives or MCH services were not available on site. This focus on skills development at Clinic D is discussed further below in Section 9.4.

The provision of HIV treatment itself, though, was challenging for providers in terms of skills development. Across all sites, providers indicated that delivering ART was a substantial burden of work, and the virus challenged them to continually develop new skills and competencies:

> *you know the virus keeps on mutating and it brings along a lot of complications […which] come as a challenge [...] You are always reading, you are always on the internet, you are always doing things, so that you, once you face a challenge you are able to [address] it [Provider, Clinic D, 0201]*

The complexity of HIV was a particular problem in terms of integration at Clinic A, which had only recently added in ART. As highlighted in Chapter 5, SRH providers there would often refer HIV clients to the "ART unit", it appears partly due to a lack of confidence to deal with the HIV illness and associated OIs:

> *ARVS are a difficult issue, you know, even including names and things, so people may not also be comfortable, you know pronouncing these names, getting to know the process and things [Provider, Clinic A, 0401]*

More experienced providers complained of colleagues not completing routine tasks and being uncomfortable with treating OIs in particular.

Training was also not always sufficient to develop or maintain competencies in SRH-HIV service delivery. Skills learned in class were reportedly "almost forgotten" by one older provider, and practice on the job seemed critical to sustaining skills developed through training. Confidence in service delivery was thus clearly bound up with the model of care provided, with specialisation or partial integration (one provider focused on different aspects of SRH or HIV) inhibitive to sustaining learned competencies. A degree of 'deskilling' was therefore evident within partially

integrated sites. For example, one provider who had considered him/herself to be a generalist attending to all clients ("we see everybody, all the conditions"), later admitted being a de-facto ART specialist, needing to rely on other staff when addressing a child health problem, implying a lack of skills or clinical confidence in MCH delivery:

> *whenever I have a case like there's a child here, I can't properly examine the child, I usually call someone from the child welfare department and say "come, please let's examine the child together, probably you'll see something I don't" [Provider, Clinic B, 0102]*

At integrated sites, there was therefore a clear tension between providers' designation as generalists working in an integrated clinic, with their normative specialisation on ART which impacted on their capacities to meet diverse needs. This 'deskilling' was also recognised by providers at stand-alone sites working on ART all the time, who previously had wider competencies:

> *when I was in [rural hospital name], we were not solely working for HIV only, we would do ANC, we would do family planning, we would do immunizations. Here maybe it is a bit different because […] it's a clinic which does HIV only, there's no other area where they can say – "come and help here," maybe if it was like that maybe it would be better, because I can maybe today help with ANC, maybe tomorrow I can go and help in the ward, then I won't lose touch [Provider, Clinic D, 0203]*

This quotation also suggests a preference for multi-tasking, and providers' motivations for integrated care are now discussed.

9.2.2 Perceptions on integration

On the one hand, many providers perceived important benefits to SRH-HIV integration. Most emphasised that their clients had substantial unmet needs for family planning services, which were better addressed through an integrated package. This included several providers at Clinics C and D who do not currently offer SRH services in the clinic, some of whom strongly lamented the lack of service availability:

> *I: do you see that a lot of your clients have needs for family planning services?*
>
> *R: I do. I do. 'Cause a lot of my patients have come and complain that they eventually you know got pregnant, they don't want it, some people who start crying, there are physical tears in the clinic because they don't want [banging table] the baby. You see, if there was active family planning that would have been avoided.*
>
> *[Provider, Clinic C, 0303]*

A clear rationale was articulated for improving provision of family planning to their clients, including having a large number of clients of reproductive age, and observed high levels of unintended pregnancies in their female clients, with some women returning pregnant time and again. Most providers also reported that many of their clients wanted or needed counselling on pregnancy, since many desired more children. There was a general concern that WLWH should not be conceiving with low CD4 counts, or for other medical reasons including reinfection risks, risk of MTCT, and risks of pregnancy with Efavirenz. Providers also emphasised other SRH needs, including high STI incidence, and libido problems with low CD4 counts.

Integration was also seen as an important strategy to overcome the ineffective and problematic referral systems mentioned previously. Most providers recognised the problem of multiple queues, and the potential loss of clients when sent down the corridor or to another building or facility, considered particularly problematic when clients were sick.

Providers across all sites focused less on benefits for themselves than these client benefits. One commonly cited personal benefit was the development of skills in new areas (alluded to above), and both integration and rotation around different departments were seen as a way to refresh skills learned in nursing college. Delivering multiple services was also seen as a way to overcome monotony at work associated with more specialist care:

> *I: and do you feel that though people who do, for example do HIV everyday and all they do is HIV, do you think..*
>
> *R: it becomes monotonous and routine, this is HIV now I'm going to be doing A, B, C and it's A, B, C – next it's A, B, C – you see, it becomes boring*
>
> *[Provider, Clinic A, 0401]*

Some providers at integrated sites who sub-specialised on HIV, in turn, desired to do something different in addition to their HIV:

> *I would like to explore like do something different. I'd continue with HIV because I've developed this thing, you know, loving the job, loving the people living with HIV you know, I've just developed that kind of love, but I would like to do something else plus this HIV [Provider, Clinic B, 0103]*

In contrast, though, there were other providers who seemed very motivated by their work in ART, and as one pointed out, the changing nature of the virus, new drug developments and the new policy recommendations related to ART implied that a focus on HIV care was not monotonous:

> *I used to think that it's monotonous, you just give people the ARVs and they get better, but there's always new information, new drugs and there are always like developments, ja, I like that [Provider, Clinic C, 0302]*

Furthermore, providers highlighted potential risks or problems with service integration; while these perceived risks or problems were not always explicit (rather interpreted through analysis), they formed a predominant narrative, in particular at stand-alone sites. Mirroring clients' own concerns about waiting times (see Chapter 8), there was a common provider perception that clients waiting outside can get annoyed if they spend too long with one client:

> *you see on my queue most of the people will be complaining [if I provide SRH too] 'cause what they are used to, [...] they want to be in the queue for two minutes, one minute, so sometimes I end up … if they are any issues I would raise them and try to spend as much time as I can with the patient, but also I have to consider the queue outside 'cause if I spend maybe an hour with one client they'll be saying I have client with so many issues, then it means I might end up compromising the time I'm supposed to see all the other clients, so, sometimes what I do if they are those big issues I try to… I prioritise the issues and start with the bigger issues… [Provider, Clinic B, 0103]*

Some even thought that this could lead to clients being discouraged from using the service, and may ultimately impact on HIV testing or adherence rates.

Providers at Clinics C and D perceived greater risks to integration, which is unsurprising given they were currently semi- or fully-specialist. At Clinic D, there were fears of attracting additional clients that they did not have the capacity to serve, as well as concerns about the implications of reorientating the clinic to SRH and thus by default to women of reproductive age, which could be off-putting particularly to men. At Clinic C, there were fears about integration of the separate ART unit with the other hospital OPD sections in the main building, including a reduction in doctor numbers, as well loss of some organisational benefits, such as having early opening hours for delivering refills; there was also a perceived benefit from having an independent management structure:

> *So what do I like now about being here?[…] I think what I like is that we can actually make certain things happen for this unit….independently [of the hospital], you know, without necessarily saying that we need to consult A, B, C, I like that [Provider, Clinic C, 0302]*

A few providers, including one at Clinic B, also thought they were providing higher quality care when they focused on one sub-component of care:

> *the other problem with one provider it means one person has to know lots of things, but maybe if we share then it means someone has to know strictly family planning, someone STI management and I think with that there's a improved quality of care, rather than one person doing family planning, STI, antenatal, postnatal, everything...I think it becomes problem, ja. [Provider, Clinic B, 0104]*

This is clearly bound up with providers' own capacities and motivations to learn multiple health competencies, as discussed earlier. But when considering how best to address SRH within HIV clinics, several providers at stand-alone sites believed that keeping SRH separate would lead to higher quality care for clients. At Clinic D, there were discussions under way to install a family planning clinic in a municipal building across the road, which one thought:

> *will be excellent because the advantage is that now there, the people there will be specifically trained for that and we know they are getting information from expert individuals [Provider, Clinic D, 0201]*

At Clinic C, there was a preference to strengthen linkages to the hospital's family planning unit, rather than offering family planning within ART, for this same reason.

One provider at Clinic D also indicated that integration with TB was a more important concern than SRH integration, due to the mortality and infection control implications of TB in the clinic:

> *R: So, preferably if we could be able to investigate for TB here as part of an integration, I can even do it myself, I can do the smears for TB, because the, most of the patients that we lose, we lose because of TB*
>
> *I: If you had to prioritise family planning or TB, what would you put at the top?*
>
> *R: (Laughing) I would prioritise TB because it's life-threatening. ja, I would prioritise TB. I've…most of the patients that we lost to follow-up and that were diseased in this clinic in particular there was some association with TB, there was some suspicion.*
>
> *[Provider, Clinic D, 0201]*

While this prioritisation question was not raised in most interviews, it has important implications for SRH-HIV integration, since providers were clearly facing competing health demands in their clients and clinics.

Lastly, it is worth noting that the potential efficiency savings on providers' time were rarely highlighted as a personal benefit of integration. Only one provider (at Clinic D) explicitly mentioned the scope of integration to save providers time themselves:

> *I think [integration] is very important, it will really solve a lot of problems and save time in terms of, because all these conditions are sort of related to some extent, looking at HIV as a sexually transmitted [..] disease it goes hand-in-hand with most sexually transmitted infection, in goes hand-in-hand with family planning... some of the family planning methods like condoms are really preventive and for sexually transmitted diseases, so, patients who come in for sexually transmitted infections other than HIV would definitely need to be counselled about HIV, and preferably tested and preferably given treatment [Provider, Clinic D, 0202]*

Time pressures will be discussed further in Section 9.4 below, but clearly a lack of perceived benefit to save time will affect providers' motivation for integration, now discussed.

9.2.3 Motivation

Most providers were enthusiastic about their role in ART provision, and most demonstrated positive attitudes to their work. While there were frustrations related to clients testing and initiating late, complaints about side-effects, distress when clients died on ART, and concerns about rising client numbers, overall most reported satisfaction from helping PLWH to recover from severe illness. Having the ARVs meant they could actually prevent premature mortality:

> *what I liked was that, you know like 10 years or so ago, we didn't have ARVs, we used to hear that there are drugs called ARVs and they work and like only very rich people can afford them and so like, when I got here, I'm like wow! Like you know, let's touch the ARVs, they exist and they actually work [Provider, Clinic C, 0302]*

Most were also motivated to meet the SRH needs of their clients, and were enthusiastic about integration if appropriate support structures could be put in place (i.e. training, staff).

In contrast, however, several providers reported motivational or attitudinal barriers to integration. For example, at Clinic C, the de-facto specialisation in the ART clinic was related to reluctance in some providers to do anything else apart from ART, even when trained to do so:

> *[HIV is] all I do from Monday to Monday and they send me patients and that's what I want to do, I don't want to do surgery or anything else [Provider, Clinic C, 0302]*

Attitudinal problems were particularly prevalent at Clinic A, where ART had more recently been introduced. Firstly, as mentioned earlier, some staff were reluctant to learn new skills, which was also partially attributed to a lack of interest. The perception of an increased workload also contributed to nurses leaving the clinic following ART integration:

> *And I think the other thing is, there's a lot of work in you know in perception. One of the nurses who left here was complaining about that, since this ART thing started coming here, there's more work [Provider, Clinic A, 0404]*

As a consequence, the SRH nurses were reported to frequently protest about having to provide ART, and a picture of clinical territorialism emerged at this supposedly integrated centre:

> *R: they grumble, but they're doing it, because […] we are integrating, the client goes next and they say "no, go back and get into room 2," that would not be proper, they should be able to assist that client on follow-up*
>
> *I: okay, so why can't they also do initiation then?*

R: ja, that's also the issue of, because if they say "who is doing what and so and so," that becomes her baby

I: it's your baby

R: so that's my baby, the ART is my baby (laughter)

[Provider, Clinic A, 0401]

The SRH nurses would then "dump" HIV clients onto the 'ART providers' without performing the tasks they were supposed to:

R:…eventually you know, you find that sometimes I have you know, simple things like weight and height, ja

I: they haven't done?

R: ja, you just bring the patient over, and even the history is very sparse. The minute the HIV issue comes up, and they test positive, yoh, (laughs) "go to the ART clinic" – that's not integration, ja

[Provider, Clinic A, 0401]

These findings were affirmed by clients at Clinic A, who reported being sent away from the SRH 'side' to the 'ART provider' as soon as they produced their ART booklet. This clearly resulted in the more partial level of integrated care observed in Chapter 5.

It was also noted that the HIV provision itself was emotionally challenging. Trying to address the complex social problems of PLWH was found to be particularly stressful by several providers, in particular when clients had no money to pay for the tests or additional treatments (beyond the free ARVs) required, and several reported paying out of their own pocket to help clients. As noted in Chapter 8, some of the staff at Clinic A, the most recent clinic to deliver ART in the group, even left the clinic due to the emotional challenges of treating sick patients. Such concerns were not noted at the other sites, which had more experience of delivering ART.

9.3 Interpersonal factors

Client and provider data point to the importance of interpersonal factors in influencing integrated care and its outcomes. Earlier chapters have suggested that clients' uptake of family planning and condoms was mediated by complex socio-cultural norms, as well as physiological and behavioural changes as clients initiate ART. To what extent does the current model of ART care promote or inhibit an exploration of clients' needs and complex social situations? Does integrated care facilitate this exploration? Furthermore, the provision of integrated care may also be influenced by the inter-professional relations between providers themselves, which may promote or inhibit collaboration across a continuum of client care.

9.3.1 Client-provider relationships

As Chapter 8 made clear, the interpersonal skills of providers were an important criterion for clients' judgements on quality of care, and many rated their providers highly. Clients reported that providers would spend time encouraging them and/or their partner to test, encouraging acceptance and disclosure of HIV status, checking what they would do if they ran out of condoms, as well as general acceptance of taking pills. Some clients reported even being able to "talk to the nurses about anything". The ability to spend time with clients and discover their needs and concerns was seen by some providers to be an important aspect of integrated care:

> *And you know, with refilling [ARVs] it's not like it's just about filling in the card, you are talking to the client, you are communicating, finding out what issues she's having, […] because like I'm saying you find that the client is on ART then all of a sudden that client is pregnant, so that's another opportunity for you to talk about doing [sterilization] during delivery or future family planning you know, so there is always a way to talk about other issues other than just doing the refill and saying "bye" [Provider, Clinic A, 0405]*

However, providers' ability to achieve the type of 'client-centred' care stressed by this provider was more limited in reality, across all sites. A number of factors influencing interpersonal care emerged. Firstly, the focus of SRH counselling across all sites was around the time of ART initiation, but subsequent follow-up was more limited. As one provider at an integrated site indicated, they would "try and make a follow-up" "most of the time". While a few clients reported ongoing messaging on SRH throughout their first 6 months of treatment (the period of client IDIs), in particular with repeat messaging on condom use, other clients' accounts suggested that a continuity approach to SRH may be lacking, again across all types of clinics:

> *R: they tell us that we need to use condoms…*
>
> *I: but have they discussed it again or they only talked about them the other time?*
>
> *R: they haven't, as they talked about them when they were counseling us during our initiation, now you only go and get your pills and they don't counsel you*
>
> *[Female client, Clinic B, 0102]*

Family planning counselling may also have been retrospective in some places. In particular at Clinic C (but also mentioned at integrated sites), providers described a standard protocol to document client's last menstrual period (LMP) in patient ART registers and on the client ART card, instead of information on contraceptive use. For providers, what was important was to verify if the client had menstruated and therefore might be pregnant:

> *but I think the other ones on family planning we still indicate on their files, because we ask on the column of the last menstrual period, for those of them that are on some injectables, on some pills, you know I'm not seeing the menstrual period, [Provider, 0303, Clinic C]*

While several considered the documentation of potential pregnancy as an essential task in routine HIV care (to prevent use of the Efavirenz drug by pregnant women), it could be interpreted as problematic in monitoring contraceptive use, and only one provider acknowledged that "it's late" in terms of action on family planning. The common approach therefore seemed to be for family planning to be discussed following an unwanted pregnancy, not before. Integration, however, was perceived by some providers (including those at stand-alone sites) as way to ensure a timely response to changing client needs over time:

> *they will benefit more [with integration], because most of the services, maybe they might not see the need of the service there and then, but in the long run it will benefit the client if they were given the service at the right time. Not to be told of a service when it is already too late [Provider, Clinic D, 0203]*

Secondly, subsequent to ART initiation and the more thorough adherence counselling received at that time, most clients reported a system where they would move rapidly in and out of their ART consultation rooms to be prescribed and collect drugs. Across all clinics, an excessively routinised model of care was the norm:

> *they seem to always be in a rush and so the only thing they ask you is how you're feeling, and then they ask you what you came for today and then they write you a short note to go and take your pills [Female Client, Clinic D, 0203]*

Even at the most integrated site where consultation times were longer and there was evidently a belief in the importance of client-centred care, clients described rushed care (in particular by the doctor) as well as an evident 'task-orientation', i.e. with providers clearly focused on the completion of routine tasks in consultations:

> *R: I don't know what [vaccinations] my baby's getting and when… I know they get shots for things like Measles…but I don't know the details*
>
> *I: Oh […] they don't explain to you what your baby is getting and what it's for?*
>
> *R: They give you the card with all the information, where each injection is given […]. Other than that, no they don't say anything. If you're a mum for the first time, you're in trouble*
>
> *I: (Laughing) so how come you don't ask them to explain the shots?*
>
> *R: It's usually fast… and they usually say they are taking the baby to be weighed, but then they take the baby and do everything, so there is no time to ask a lot of questions*

I: What about while they are doing it… you don't ask questions?

R: Whoo! There's not much you can talk about in there… they will just tell you "lift his armpit", " turn him around" "rub him" "pick him up" and then it's over and they have to attend to the next person

[Female client, Clinic A, 0405]

While this approach to service delivery was not acknowledged explicitly by most providers themselves, one provider at least was aware of the impact on quality with this more task-oriented approach to ART delivery:

[the doctor's] hurrying of course […] some clients are complaining that he doesn't even explain to them what he's doing, like he may just give the result and then "go to dispensary". But […] you need to explain what you'd found "this is what I have found, this is what your results are saying about you, I think it's okay, we can start you on treatment." But if you're just going to be opening the file, running through the results, not even saying anything about the meaning of those results – you're not saying anything to me. You examine me, you strip me there on the bed, you are all over me – next time "okay get down, dress up," you don't explain what, what you found there [Provider, Clinic A, 0401]

While a few clients did report being advised about sexual partnerships, for example men being advised to decrease their number of sexual partners, or to avoid taking more wives, this did not seem to be any in-depth consultation, but rather passing advice.

Thirdly, imbalanced power relations between clients and providers also inhibited clients' articulation of their needs and concerns. In the context of SRH, one client felt that a provider would disapprove of family planning since she was young and unemployed, and two others mentioned that contraceptive use may only be appropriate after giving birth. Fears of provider reactions were evident at all sites, except Clinic D where a greater provider openness was perceptible. Some clients were unsure if they were "allowed to ask the doctors", and others were scared to ask questions about SRH:

I: How do you feel about […] approaching a nurse straight up and asking them about pregnancy while living with the virus?

R: I can, but sometimes you're scared to approach a particular person, you ask yourself how could you possibly approach them.

[Female client, Clinic B, 0103]

Also, those who were told to come on different days (a particular problem at Clinic C) reported difficulties in asking for coordinated appointments.

Such fear of providers could have drastic consequences; in one emotional narrative, a provider recounted how her client's fear of being scolded about her pregnancy contributed to an infanticide:

> *we always educate them not to be pregnant with a low CD4 count, so the patient becomes afraid to say that "I'm pregnant now" so you find that they end up abandoning these babies or whatever they do. […] like last week, or two weeks back, someone decided to put the baby in a pit latrine. She was afraid, she didn't tell anyone that she was pregnant, I also didn't notice that she was pregnant until the police came with her. And when I asked, she said "you always ask me if I'm pregnant and I was afraid you were going to say my CD [was low]" because she had a CD[4] of about 30. She was just initiated on ART, so she knew it was wrong. But we don't scold them. We talk in a way, but I think they are also afraid that the baby will maybe come out positive. […]So when I asked her, she said "what's the use of keeping the baby because she's already positive" and I said, "but we haven't tested the baby…"what if she's negative" then she said "I'm sick, it's better to take care of myself" and I said "then, let's take the preventive precautions" [Provider, Clinic B, 0102]*

In such an account, a complex web of service-related and social determinants of health outcomes emerges, including women's desperation in the face of unintended pregnancies, failures in health education on PMTCT, an evident social distance between clients and providers and associated lack of understanding, and potential mal-treatment in clinics. In these situations when clients failed to follow their advice and ended up in undesirable situations, including with unwanted pregnancies, providers often expressed frustration that many outcomes were beyond their control.

But part of the blame clearly lies in the service response. In many cases, the complex situations and needs of clients were not addressed, even in integrated clinics where services were actually available. A clear example is given by a client at Clinic B, who at Round 1 reported an unintended pregnancy caused by contraceptive discontinuation following problems with hormonal methods. While this client was a prime candidate for integrated SRH provision, actively wanting family planning, by Round 3 she still had not received a method, despite having been advised to attend the family planning unit in the clinic. For this client, fear of contraception was the critical barrier:

> *R: ... I want to ask my doctor whether [implants] stay in your body forever, maybe he can explain better and maybe see if can do it but <u>I'm really afraid</u>*
>
> *I: okay I see, it came up in our last interview that you want to go to the other side for family planning, did you eventually go there?*
>
> *R: I haven't gone there yet…like I've said, I'm still thinking which method I can use 'cause when I use the pill I get wet and when I use the injection it hurts*

> *when I urinate, and with the pill I get wet as if I have peed on myself and so I then decided to stop everything*
>
> *[Female client, Clinic B, 0102]*

The ART providers were evidently unable to address this client's fears and concerns, and a simple referral down the corridor was insufficient. The data suggest that many other clients had concerns about side-effects of hormonal contraceptives, and these also contributed to contraceptive discontinuation and unintended pregnancies; others had concerns about pill burdens with ART. Conducting an in-depth assessment of clients' needs and concerns in this context is clearly important.

Fourthly, the style of counselling may also be problematic. Clients at Clinic C complained of hearing the same "lectures" each week, and providers also felt that some clients don't respond well to "lectures" on sexual behaviour, in particular younger clients:

> *one of the prohibitive things [to emergency contraception] has been the, the issue of er, the nurses giving [younger clients] a long talk about contraception so they go to the chemist […] the nurses are counselling them on how you know, unprotected sex is not good, so the teenagers won't come there […] it's too much of a lecture "oh, here we go again, now my mother again." So they go to the chemist, they get it there, and sometimes they are not even told how, you know, how to use it. [Provider, Clinic A, 0404]*

Some providers though, in particular doctors, felt that they lacked training in counselling skills, which might explain certain gaps in service coverage. Some clients were also able to recognise when counselling was superficial. For example, one client noted how nurses failed to discuss "the pros and cons of condom safety" with him, underlining that even basic condom provision may be inadequate.

There was evidence, however, that some providers were able to go beyond basic counselling. The importance of proactively promoting SRH services was stressed by some providers, labelled as "active family planning" by one, and another at Clinic A even stressed the need to "market" SRH services to their clients:

> *integration means that, even if a client has come for one service, you try to market the other services, yes, you market the other services that are available [Provider, Clinic A 0405]*

Yet the complexity of addressing clients' social situations implied that they were not always responsive to this 'marketing'. One provider who stressed the need to "push" family planning, also went on to admit that clients' social situations (e.g. partner problems) would still preclude their uptake of a method.

Lastly, it is also important to consider that while some clients clearly wanted to be given more opportunities to ask questions or get more services from providers, others instead had expectations and desires for fast service delivery. As noted in Chapter 8, quick, efficient services were one of the aspects of care most appreciated by clients. Some even actively resisted provider attempts to counsel them:

> *He also tried to explain to me that being HIV positive doesn't mean I'm no longer a person. I told him that "ah I don't have a problem" because coming here eh eh… that is the reason why today I even told them that I don't need counselling and please could they not delay me because I'm in a hurry, I don't need counseling [Male client, Clinic D, 0204]*

Clearly, therefore, a careful balance to address divergent client needs is required. A more client-centred approach would clearly be useful to ensure that services are tailored to clients' situation and needs.

9.3.2 Inter-professional relationships

Inter-professional relationships emerged as an influential factor in the organisation of care. Across all sites, providers relied on other staff members, including doctors, nurses, adherence counsellors, and phlebotomists, to provide a spectrum of HIV care to clients. Interprofessional working was also clearly important to addressing SRH to PLWH, even within integrated sites.

At partially integrated sites and stand-alone sites, team-work was essential to address multiple needs through the semi-specialist providers. While in most instances this involved a referral down the corridor, at times providers described calling others to their room, or being called to other rooms with expertise in their area:

> *I'm the one doing ART, so whenever [the SRH nurses] have problems, they usually call me… [Provider, Clinic B, 0102]*

The extent to which this always occurred at this clinic is less clear, though; as the previous section noted, clients were often internally referred. This type of professional collaboration was also emphasised at Clinic C, where different hospital units worked together to ensure comprehensive patient care, and where the different units were understood to have greater expertise in their own area:

> *we can consult each other, we can send a patient over to somewhere and get a feedback, as opposed to if we are in town and then when the patient needs in-patient care, you have to say "go to [Clinic C]", you know, and can we can follow up, at least the in-patients, it's easier and stuff like that, I prefer, I think it's better actually [Provider, Clinic C, 0302]*

At integrated sites, labour was still divided among different cadres for the provision of ART on its own. The nurses relied on adherence counsellors, who were HIV positive, to provide comprehensive counselling, and the doctors were relied upon for their superior expertise, when complications were out of their remits:

> *[the doctor] sees the clients for SRH like cases which are out of our scope, we refer them to the doctor, so he helps us [Provider, Clinic A, 0406]*

There was a sense, however, that at times nurses may routinely refer clients to the doctor for issues which they theoretically should have been able to address themselves. Nurses across all sites were reluctant to advise on pregnancy in HIV, and felt the clinical decision-making involved in determining a client's readiness for pregnancy was not within their remit. At Clinic A, there was a particular suggestion of power imbalances between nurses and doctors, and one provider underlined the fear of some nurses in meeting their doctors' expectations:

> *you know these old doctors, they used to treat nurses like their maids and with doctors also you have to know what you are doing, you have to do your work and do it properly. So if you are not comfortable, if you are not sure of what you are expected to do, you will not be comfortable to work with the doctor, yes, because you have to know where you start and where you end. He must not be seen to be saying to you, "why didn't you do this, why didn't you do the blood pressure, why didn't you check his weight," you see, that's supposed to be your duty [Provider, Clinic A, 0401]*

Furthermore, in Clinic A's fully integrated model, where all providers were supposed to offer both SRH and HIV, the sense of provider frustration with other team members was greater than elsewhere, particularly when others were not seen to be pulling their weight:

> *I don't want to do everything myself, I believe in sharing (laughter) and I've tried to decentralize all the duties, I've really tried to say "I cannot do it alone, let's do it together, all of you, let's move." Although [...] like the issue of pap smears, I explained it to you, before the client comes to me "did you do the pap smear?", it's not my baby to, to come here and do the pap smear when you know that this client is supposed to take a pap smear as a routine, yes, so you cannot [refer] the client from [the youth clinic building] then for me to do the pap smear here [Provider, Clinic A, 0401]*

The normative differentiation of care in what was supposedly a full integration model, thus precluded a proper team collaboration. Over the course of the study, though, changes were being made at Clinic A to ensure the ART 'unit' was better supported, and providers there did note improvements in team support.

9.4 Infrastructural & systems factors

Several infrastructural and systems factors emerged as important challenges to or prerequisites for the delivery of integrated care. First and foremost was the time pressure factor, felt by both providers and clients. Providers, in particular those at the two stand-alone sites, feared the implications of trying to deliver a new service in over-subscribed ART clinics with ever-growing numbers of clients:

> *I: Do a lot of your patients have concerns about their sexual health?*
>
> *R: Right now, we don't have time for that, we talk about adherence counselling for ART. […]a lot of patients they do come with that problem of low libido, and they've got a lot of questions concerning, surrounding HIV and sexuality and…We do sometimes answer some of the questions, but most of the time we don't have time 'cause the counselling that we give it's mostly concerned with adherence and treatment. [Provider, Clinic D, 0202]*

Even at the two integrated sites (including the well-staffed Clinic A), client load was inhibitive to integrated care delivery, as noted by this provider:

> *it's not possible to do it under one roof because you find that like now I'm working alone...I can't provide ARVs do adherence counselling and compliancy then like the patient has come for immunization and do the immunization in the same room and do family planning, you know what I'm saying? It's quite a lot of a job so, it's very impossible. [Provider, Clinic B, 0104]*

As a consequence, providers would focus on the immediate task at hand (ART); some reported telling clients to come back another day, while others stated that they just simply can't do SRH counselling. One doctor at Clinic C even reported spending "as little time as possible" with each client, and it was felt that adding SRH would be "an overload". The complexity of HIV disease management also meant that SRH concerns could get overlooked, even at integrated sites:

> *R: … it's not the only thing that you're supposed to ask and you're supposed to do, so you may overlook the family planning issue. You may talk about nutrition and forget to talk about family planning and if it's already documented then […]*
>
> *I: do you ever forget?*
>
> *R: no I'm saying, you may not necessarily forget, but you may not talk about it*
>
> *I: right*
>
> *R: because there's just maybe, a lot of things can come up and you, you may, you may end up not talking about family planning, but would have talked about a lot of other very important things*
>
> *[Provider, Clinic A, 0401]*

Addressing SRH therefore also depended on the timing of the consultation, with the feasibility of delivering family planning lower around the time of ART initiation when many other important topics needed to be addressed.

Given the reported complaints about waiting time in Chapter 8, it is not unreasonable for providers to be concerned about queuing clients. But as noted earlier, clients were also aware of these pressures, and this resulted in them being unable to raise not only SRH issues, but other important health concerns related to their HIV illness. Some clients who did spend time asking providers about their concerns also felt guilty about it:

> *I: okay, how much time do you spend with the doctor?*
>
> *R: maybe because I like to ask some questions I think I delay the others, I think I take about 15 minutes but the others take less, I ask the doctor some questions […] like you see my partner still hasn't started treatment and so I use condoms […] She hasn't tested yet, but when I want to have children they say there's this pill she has to take an hour before […]that is what I wanted to know, the information on what happens after that*
>
> *[Male client, Clinic D, 0204]*

Clients, therefore, were also contributing to shaping patterns of care. For them, one individual delaying the provider thus implied longer waiting times for all, and this could be particularly stressful in cases where clients were hungry:

> *R:…he's a nice doctor. He asks me how I'm doing, and he asks what you just asked me too…if I can get to the clinic fine, or if I have any other personal problems. It's just that I usually have a short time with him, like 10 minutes. So we talk about a few things…*
>
> *I: 10 minutes…okay…do you feel that is enough for you? […]*
>
> *R: Eh… I think it's fine, he does everything in that time, and the waiting is not nice on my side as well… if he took more time with each person we would end up waiting in line forever and ever… and queues are not nice, you end up angry and hungry (Both laughing) … but I think the time I spend at the clinic is okay… it's longer only if I have an appointment with the doctor, otherwise it is fine, I just get my pills and go*
>
> *[Female client, Clinic B, 0103]*

However, in contrast to these accounts of time pressure, observations in the clinics suggested that staff were not always as overloaded as they claimed. Clinic A, for example, was only busy two afternoons a week, but otherwise usually quiet. Clinic B was busy between 9am and 12pm, but practically deserted every afternoon. Clinic C had long queues of clients on refill days, and large numbers of clients in the waiting room, but there were usually at least three staff sitting

around in the clinic office chatting. Clinic D appeared the busiest, with a constant stream of clients attending throughout the day. Clients were certainly demanding in the queue, but as Chapter 5 described, in fact the waiting times could be relatively short, in particular for ART refills. Thus an uneven flow of clients throughout the day and week also contributed to time-pressures.

A second infrastructural and systems factor was the availability of adequate space, reported to be problematic in all facilities (except perhaps at Clinic A where it was mentioned only once). Even at Clinic B, where integrated care was theoretically occurring (at least at some level), the nurse shared an office with the data clerk, and also dispensed drugs at her table. The lack of privacy was seen to restrict clients' ability to discuss personal matters (such as sexual health) or take adequate histories, and the lack of space for a bed in the room meant that pelvic examinations or IUD insertions were impossible. Being given ART care in a private and confidential environment was considered important by clients, in particular to discuss sensitive sexual health concerns. At Clinic C, the provision of services in corridors, while surprisingly not highlighted as problematic by clients themselves, was admitted by one provider as being an impediment to more client-centred care:

> *so [counsellors] try to fit themselves in the reception area and sometimes you end up asking clients something which you are not supposed be asking them, in front of the others. [Provider, Clinic C, 0305]*

Achieving privacy was also related to the number of providers seen. This was highlighted in client data in Chapter 8, and providers themselves also noted the difficulties clients faced in telling personal accounts related to sexual health again and again to multiple providers:

> *R:...if this person is presenting with an STI….then I discover a need for testing…then I refer…I am no more integrating. Maybe this person had developed so much…you know….confidence in me….and then I have to say go…some may not remember the other nurse.[...] And besides….telling your story again and again and again, its not nice, is it? It would be useful to just say only once, then he gets help. [Provider, Clinic D, 0405]*

While more personalised care was seen to facilitate clients' opening-up, the general size of the facility was seen to influence the capacity to deliver comprehensive ART care. In contrast to the hospital, which had easy referral to specialist units and diagnostic facilities, providers at the smaller clinics (A, B and D) reported frustrations at not having space (or equipment) to conduct x-rays, TB sputums, put clients on IV drips (lacking a day care room) or do CD4 cell counts and other diagnostic tests on site. As one provider at Clinic A noted, managers needed to make decisions about how far they wanted to take the concept of integration:

> *it is up to [the managers] how far they want to take this, it is not up to the patient. The patient will take whatever, they will wish for even wards to be here you know (laughs) these wards, but I mean, that's not practical but I'm just saying that, I feel that there's a lot that can be done in terms of integrating the services er, short of you know, fully fledged out-patient hospital services [Provider, Clinic A, 0404]*

Providers at integrated sites felt inadequately prepared to treat sick patients, lacking wheelchairs, for example, and clients themselves complained of having to self-refer to the hospital in the case of acute ill-health. There were also concerns about adequate ventilation and TB transmission. Observations at Clinic D also found that very sick patients were inadequately cared for or sent away, and a report of a client dying on site was clearly emotionally disturbing for providers there. Even at Clinic C, though, the ART clinic was not 24 hours, and one client reported waiting there all night when very ill.

The data also suggested that condom supply may also have contributed to the differential rates of condom provision across sites. For example, at Clinic C, one provider claimed to always distribute condoms within consultations, yet was unable to find any on the desk at the time of the interview, undermining this account. Conversely, at Clinic D, a branded condom ("LOVE condoms") was marketed specifically by the clinic's associated NGO, and these were available on display at the reception and in all consultation rooms, and observations in clinics showed many clients freely taking them. Providers there also reported demonstrating condom use to clients with anatomical models, unlike other sites.

The physical layout of facilities and type of integration was also seen to influence its relative success. The co-location of TB services next to ART at Clinic C, for example, was felt to be important, and it was suggested that the maternity unit could also be moved closer to ART. The physical separation of the ART unit from SRH services (within one clinic, but into different buildings) was considered a barrier to effective referrals and integration outcomes. Even referral to the other end of the corridor at Clinic B was problematic, and providers tried to avoid referral if possible:

> *I usually don't like referring them to other departments, even if she has a baby, I try to solve all the problems here, except when it needs the doctor or a facility outside [Provider, Clinic B, 0102]*

As this client noted at Clinic C, being sent away to a different building without specific directions was particularly problematic and would result in clients giving up:

> *These places are far from each other and it might be that you don't end up going where you've been referred just because of the back and forth you have*

> *to keep doing. It's just that it's better because it's in one facility, otherwise people can just give up. But you should be patient. […] [The nurses] do help when you ask them. But you have to ask them, and they might point it out or take you there themselves [Female Client, Clinic C, 0301]*

Observations at the clinics and interviews also indicated that systems factors also played a role in facilitating or inhibiting integration. Separate data systems, including separate client registers for HIV and SRH which were positioned in separate rooms, meant that providing multiple services in some rooms was impossible. These separate data monitoring systems stemmed from vertical programme structures in the MoH. These structures also resulted in staff being specifically employed for the HIV or SRH programme, contributing to de-facto specialisation roles. Having appropriate guidelines on contraception for PLWH was also considered to be important by providers (current guidelines only emphasised condoms), and some suggested revising ART registers, forms and booklets to include data entry on contraception "as a reminder to say "okay, did I talk about this?"".

9.5 Institutional factors

The IDI and observational data presented in previous sections suggest that capacity to deliver integrated care is bound up with a more client-centred approach to care. Institutional commitment to client-centredness is bound up with a commitment to quality of care, and these principals varied across sites, however. At Clinic A, an institutional ethos and programmatic drive to support the integration of SRH and HIV services was in evidence. The clinic had a strong focus on quality of care, holding regular training workshops, and there was a greater belief that time should be spent with clients to address diverse needs, as noted earlier. Providers there talked of the importance of media outreach to try and change population-level beliefs or behaviours, had particular concerns about needs of youth, and also emphasised client rights:

> *the problem that we faced was the dispensary issue, because [the clients] could not go to the window there where everyone is to, to collect the ARVs. So we had to, like we had to sit down and decide what we could do as way forward […] we are actually infringing on one of their rights of, that of confidentiality [Provider, Clinic A, 0401]*

Institutional support was also identified at Clinic B, where the model had received investment from an international NGO, and was again being promoted internationally as an example of effective integrated care (Chouraya, 2007). This type of institutional support at both these sites meant that providers were very conscious of the potential benefits of service integration, and felt it was an important goal to strive toward.

However, the most specialist site also demonstrated some of these same commitments, without the actual SRH service delivery. Clinic D had a positive managerial ethos, which evidently made the providers very happy to work there, with one reporting that they were "the best" ART clinic in Swaziland. Clients were reporting to be "running away" from Clinic C and other locations to attend their clinic. Providers reported having weekly staff development meetings that would help build their skills in different areas (including one at the time of the study on SRH for PLWH), as well as acting as a forum to address operational problems. As noted above, the clinic also acted as an NGO and was engaged in condom distribution and marketing of branded condoms throughout Swaziland. They also reported a family orientation to care, and actively encouraged clients to attend with spouses and children. Such a focus thus helps to explain some of the positive indicators found at this clinic in earlier chapters.

Another institutional factor that emerged was the historical focus of the clinics. Clinic A, in particular, was seen both from within and outside as a family planning clinic, not as an HIV clinic. In particular it was felt unlikely to attract men when HIV was positioned as a "subsidiary of sexual reproductive health" (Provider, Clinic D). Clients attending other clinics were also not aware that it delivered ART, knowing it only for SRH services. The data from clients was mixed, with the male client interviewed stating he felt very comfortable there; but one woman noted that it would be hard to bring her partner, stating "I think it's better for him to go where he will be comfortable". Related to this point was a perception among some providers at Clinic A that, being an SRH clinic, managers lacked specialist knowledge and training in medical service delivery:

> *when someone who is in charge of your nursing cadre and also of your programme doesn't fully understand what you're doing, it's very frustrating. 'Cause sometimes [the manager] won't attach the, as much importance on the things that you want, that you need, for instance up to now, I don't have a working ortoscope [Provider, Clinic A, 0404]*

Conversely, one of the reported strengths of Clinic D was its ability to provide a comfortable environment for men due to the sole focus on ART:

> *I probably think [men] do feel more comfortable in our setting, well men have got issues, probably they wouldn't want to be associated with a unit that is labeled as a sexual reproductive [health], […] Because there are, I think there are institutions like [Clinic A] who are, who have been said to be sexual reproductive health, I think they wouldn't attract as many men as we would as an ART clinic, even if they're offering ART, it's now like, ART is a subsidiary of sexual reproductive health, I bet as a man I can attest that you will see few men there, they don't want to be seen dealing with family planning [Provider, Clinic D, 0203]*

This suggests that a range of service modalities should be made available to PLWH.

And lastly, clinic fee policies were another factor influencing integration outcomes. This factor was discussed in greater depth in Chapter 8, but clearly the institution's fee structure's influenced client's willingness to receive additional services.

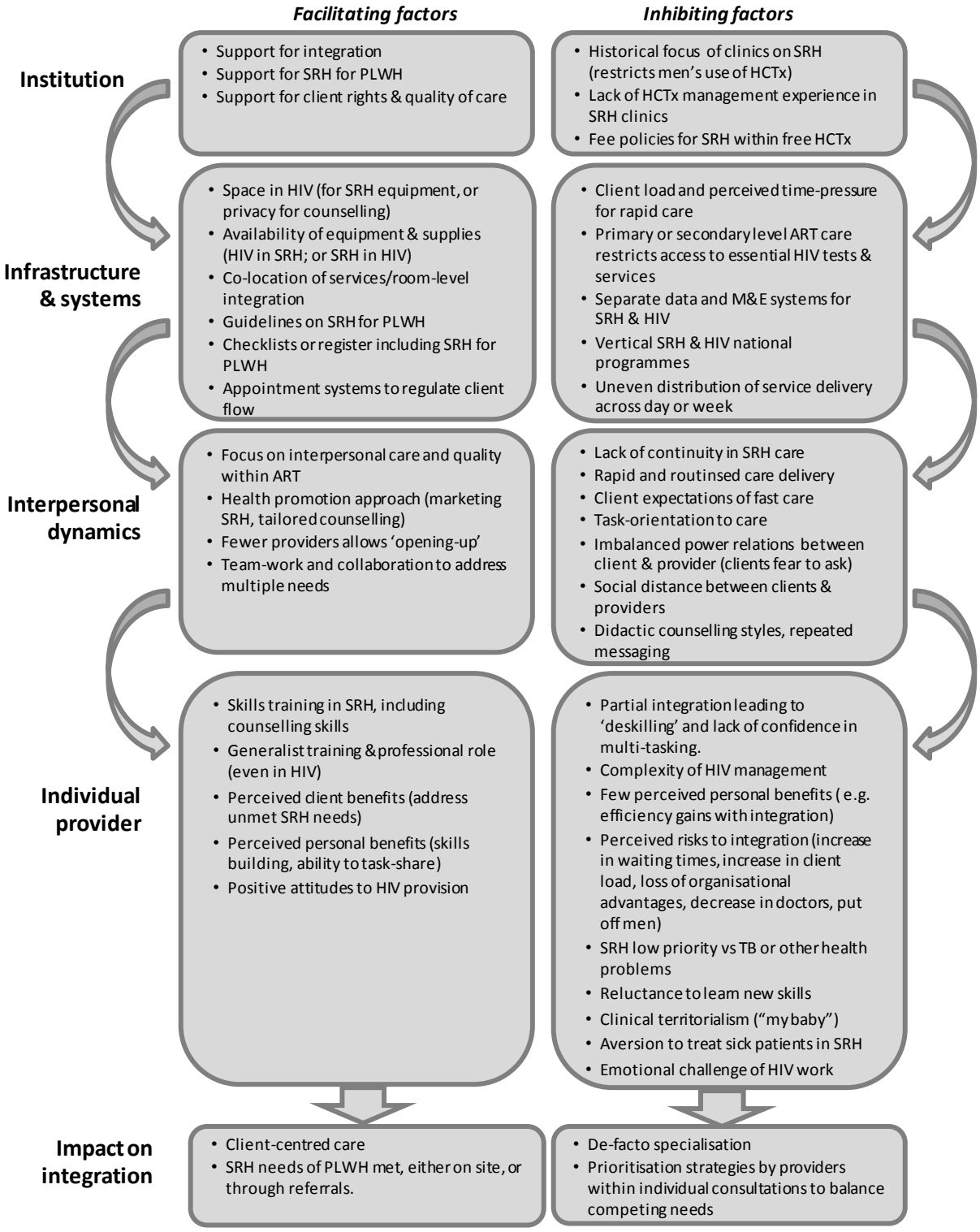
9.6 Summary and discussion

This chapter has demonstrated that the capacity of clinics to deliver integrated care is contingent upon a wide range of inter-related social and organisational factors. While many existing research reports on challenges to SRH-HIV service integration focus primarily on the material resources or systems factors influencing policy implementation, such as staffing and client loads or equipment (Rutenberg et al., 2002; Maharaj & Cleland, 2005; Adamchak et al., 2010), the chapter has focused more on the social aspects of integrated care provision, particularly the critical relationship between client and provider. The main findings of the chapter are now summarised.

A range of factors influencing the provision of integrated care were identified through client and provider interviews and observations. These factors could either inhibit integration, or facilitate integration, and are summarised in Figure 9.2. While data were presented in this chapter from the 'bottom up', starting with contextual factors in the provider, it was evident that the different levels of influence were inter-related as summarised in the figure.

At the top, the institutional commitment to integrated care was important but not sufficient to deliver service integration within consultations. Clinic A forms an important case-study since the clinic clearly had a strong institutional focus on integrated SRH-HIV care, yet in practice the delivery of a fully integrated package of care was hampered by social and infrastructural forces within the clinic. In contrast, an institutional commitment to quality as well as condom promotion at the most specialist site, Clinic D, led to provider commitments to address SRH through counselling within HIV care, and this likely contributed to the positive outcomes at that site noted in other chapters (e.g. high levels of condom provision and satisfaction).

Figure 9.2: Summary of contextual factors influencing SRH-HIV integration



Providers' capacity to deliver a broader package of care beyond routine ART care was inhibited by systems-related factors. Issues such as separate data entry and reporting systems influence integration goals, and it is clear that more work is needed to at least ensure that SRH indicators are included in HIV registers and client forms. Perhaps more importantly at the systems level though, a perceived time pressure and heavy client load led to rushed care and failure to address clients' complex SRH situations and needs. However, while delivering HIV care to large numbers of clients certainly placed heavy demands on providers, their perceptions of very long queues did not always hold true through observation. Care was observed to be focused at certain times in the day (morning) and/or on certain days of the week, and this may have contributed to a perception for the need for rushed care. It was not always clear from the data why care was organised in this way, and further research with providers and managers could add to understandings on organisational systems in PHC in the region. Other integration studies monitoring provider time have demonstrated similar findings, highlighting that many providers actually have time free late or early in the day (Adamchak et al., 2010). Providers' attempt to blame integration failures on client loads also suggests an externalisation of culpability onto the system. Such externalisation of blame for underperformance has been highlighted in sociological studies in other health care settings, and indeed has been noted as a near universal feature of human discourse (Dixon-Woods et al., 2009).

Integration short-comings also clearly relate to individual provider capacities. In a context where many clients initiate treatment late (as evidenced by the population median CD4 count of 234 presented in Chapter 5), it is understandable that a provider's attention is focused on their HIV illness, at least around ART initiation. SRH needs may therefore have been low down on a list of other competing health demands and priorities. Even though many providers considered SRH to be important and inadequately addressed (with unintended pregnancies an important risk for those with low CD4 counts), they had to employ a variety of prioritisation tactics during consultations to address the most pressing needs first. This seemed to be a rational response to queue pressures while still trying to meet clients' most important needs.

The degree of service integration impacted upon provider capacities to deliver a spectrum of services. While some reports have suggested that HIV management is relatively simple for nurses to deliver (Gilks et al., 2006) (at least compared to some other aspects of PHC), this chapter has suggested that applying learned competencies requires regular practice. The SRH providers working in the de-facto partially integrated model at Clinic A continued to rely on more HIV-specialist team members to deliver HCTx, and then lost practice, exacerbating their

confidence short-comings. Meanwhile, those working to deliver HIV at Clinic B lost confidence in their learned abilities to provide family planning and other MCH services. In contrast, Clinic D's policy of ongoing training and skills-building for providers contributed to competency development. Provider fears may in part be related to the way ART was first introduced through specialist doctors in the region, and this chapter did suggest challenges in nurse- doctor relations at Clinic A. It is perhaps this 'deskilling' of providers through their assignment to routine, monotonous tasks that represents an equally important challenge. This has been observed within studies on health services organisation in other countries (Reeves & Lewin, 2004)

Motivational factors also played an important role. On the whole, conceptualisations of professional roles did not form an important barrier to integration (a concern in hospital settings in developed countries (Kane & Wellings, 1999)), since most of these providers considered themselves generalists who had a role to play with SRH. However, there were territorial issues arising where de-facto specialisation occurred, implying a need for greater attention to staff management and policies of team collaboration in integrated systems. The organisational shifts implicit in an integration system underline the need to prepare staff for change: the teething problems reported at Clinic A, where some staff were initially unwilling to share the burden of ART delivery are lessons that can be learned by others. Furthermore, the fact that providers did not perceive many personal benefits from integration suggests that greater advocacy work is required to highlight the potential for greater efficiency with integrated care (i.e. if more client needs are met in one visit, thus reducing the number of visits required). However, staff at stand-alone sites also highlighted important potential risks with integration, including putting off men (a key constituent), which again adds weight to the argument to maintain stand-alone models.

The interpersonal aspects of care were again shown to be critical, here for the achievement of integrated service aims. The rushed care orientation noted above is also bound up with a task-orientation to service delivery, within which the potential exploration of situation and needs is limited. While all health care invariably involves some degree of routinisation (to ensure clinical protocols are followed), the data suggest an excessive provider focus on the completion of discrete tasks such as weighing, blood pressure measurement, and prescribing, which Chapter 5 demonstrated were even fragmented between different providers at times. For effective SRH delivery for PLWH, a client-centred approach seems critical, including spending time with clients, exploring their situation, beliefs and fears, and counselling on a pragmatic course of

action to achieve desired SRH outcomes. Care continuity also forms an important dimension of this, in particular given the findings on changing SRH needs presented in Chapter 6. But achieving client-centred care, in turn, is to some degree dependent on integration, suggesting a mutually reinforcing relationship between the two: achieving in-depth counselling is not possible when clients have to visit multiple rooms and providers for sub-components of care. It is also worth noting, however, that as with the preceding chapter, impressive examples of provider dedication to client needs were demonstrated.

This part of the study also has several limitations. Firstly, it would clearly have been useful to supplement interview data with observations of care and of clinic routines. Ethnographic studies into the workings of HIV clinics have been useful in South Africa for exploring the organisation of care in greater depth (Guise, 2011), and a more formal participant observation methodology could have added interesting insights into the research questions. Nonetheless, the triangulation of client and provider interview data aimed to help overcome that limitation. There were also limitations to the scope of the data collection and analysis. Only two doctor-managers and one nurse-manager were interviewed (at Clinics C and D), and it would have been useful to get a managerial perspective across all sites to complement the provider data. Managers were not specifically interviewed due to an earlier decision to focus only on the provider perspective on providing care to PLWH. Furthermore, specific probing on the different aspects of HIV was not conducted; it would have been useful to gain further insight into providers' differing roles around the time of ART initiation, and subsequently at refills, and how easily SRH care could be addressed at different points in time. It would also have been useful to further explore the way provider teams interact within partially integrated facilities, and this is a potentially important area of future research for integration studies.

The limitations, or perhaps rather particularities, of the qualitative data, should also be noted. Interviews imply 'identity work', in which the respondent plays a role in portraying a certain story and identity of themselves to the interviewer (Silverman, 2006). Provider data, in particular, may have been heavily influenced by the interaction with the interviewer, a white British female from the UK. Considering providers understood the aim of the interviews to be about service integration, they may have offered particularly positive views of the concept of integration which were not actually held in practice. To overcome this limitation, the researcher tried to establish an empathetic rapport during interviews. It was explained in great detail that the conversations were confidential and anonymous, and it was made clear that the aim was to try and understand their true feelings about their work environment, to help improve policy. On

one occasion, where reports from providers in one clinic conflicted, two further provider interviews were then conducted. And again, the triangulation of data between provider and clients interviews and observations was helpful to present more valid and reliable findings.

Given the findings of this chapter, the concluding discussion of the thesis will now summarise results across the different research objectives, and reflect on appropriate strategies for addressing the SRH needs of PLWH in light of these findings.

Summary of main findings (Chapter 9):

- Clinic capacity for delivery of integrated care is influenced by inter-related contextual factors operating at individual, interpersonal, infrastructural and systems, and institutional levels. Institutional commitment and adequate infrastructure, supplies and training were important but not necessarily for sufficient to support integration; instead, less tangible social factors were often determinant.
- At an individual level, while most providers felt that SRH is neglected and important for their clients, they faced competing demands on their time, and had to prioritise care provided. While training was necessary to deliver SRH within HCTx, regular practice of competencies was equally critical, and a de-facto sub-specialisation of care in integrated sites resulted in de-skiling and loss of confidence. At the stand-alone site, regular on-going on-site training helped build capacities, even in SRH counselling.
- Provider motivations for integration are important, and while many perceived client benefits to integrated care, it was worrying that few perceived personal benefits with integration (e.g. time-saving over the long run). Territorialism over roles was also observed, and staff at the most integrated site had not initially adapted well to integration, struggling with the complexity of clinical care and its emotional challenges.
- Service integration was facilitated by strong inter-personal care through which time could be spent exploring client needs and situations; this was particularly important for SRH where many clients had concerns over contraceptive use and side-effects. Continuity of care is also critical for SRH where needs change over time. Integrated care and client-centred care were mutually reinforcing. Conversely, integration was limited by task-orientation to care, observed in these clinical settings, where ART itself remained functionally separated and fragmented across multiple service contacts.
- The ability to provide more client-centred care, though, was limited by heavy client loads in facilities and perceived pressures on time that led to rushed care. This was exacerbated by uneven provision of care across the week, or across a day.

10. Discussion & conclusions

Introduction

This final chapter summarises the main findings presented in the thesis, and reflects on these findings in light of existing research on service integration within SRH and HIV services in the sub-Saharan region. A revised conceptual framework is proposed based on the study's findings. The implications of study findings for the provision of HCTx and SRH services in the region are discussed, as well as the strengths and limitations of the study design, areas for future research and dissemination strategies.

10.1 Main findings

This thesis sought to investigate the process of SRH-HIV service integration in Swaziland and evaluate its impact on client outcomes, by comparing stand-alone and integrated models of service delivery. The client outcomes evaluated were uptake of SRH services within HCTx and unmet needs for family planning (Chapter 7); client satisfaction (Chapter 8); and stigma (Chapter 8). These outcomes will be reviewed and potential explanations discussed, derived from the study's findings on the real extent of service integration (Chapter 5); the context of client SRH needs (Chapter 6); and the broader context of provider behaviour and service response (Chapter 9).

10.1.1 Service uptake and SRH outcomes

Overall, too few HCTx clients were accessing core SRH services. Since testing HIV positive, only 58% received family planning counselling, 14% received pap smears, 56% received condoms, 13% received advice on sexual health, and 56% received sexual health screening. This is amongst a population who had been attending HCTx for a median length of 8 months. When asked about service access 'today' (i.e. day of survey), out of the 1656 sub-services accessed altogether, only 3 were for family planning, 2 for pap smear and 6 for STI service. The one service that was widely accessed everywhere was counselling on condom use (over 75% accessed since testing HIV positive at all sites).

Use of SRH services differed across the four models of care, and model remained a determinant factor for uptake outcomes in multivariable analyses that attempted to control for population-level differences between the sites. However, results were not wholly consistent, and this study

has failed to demonstrate that the two integrated clinics (A and B) consistently promoted uptake of family planning services (broadly interpreted) more effectively than the stand-alone model of care, as had initially been hypothesised. While clients at Clinic A had over two times the adjusted odds (with weak evidence) and clients at Clinic B had over six times the adjusted odds of accessing family planning counselling services than the stand-alone model Clinic D, they only had greater adjusted odds of receiving pregnancy counselling at Clinic B (nearly double the odds) and at Clinic C (over three times the odds) (versus D), and there was no difference between Clinics A and D. Conversely, clients at Clinic D had over five times the adjusted odds of having been provided condoms than any other site.

There also remained missed opportunities for promotion of SRH services across all sites. On average, clients would have liked more information on an additional 3.2 services, though a large proportion actually wanted more information on ART itself (62%). Nonetheless, important proportions of clients indicated the desire to get services on family planning (36%), STIs (48%), sexual health counselling (31%) and pregnancy counselling (29%), and these proportions remained high at integrated sites.

Failure to promote consistent access to core family planning services also probably contributed to failures to impact upon SRH outcomes at integrated sites. While 65% of clients wanted no more children (and those that did wanted to wait on average 3.4 years to have one), 41% of women were not using any contraceptive method, and among those that were, only 22% were using a hormonal or long-acting method of contraception. Most of the rest (77%) used condoms alone (78% of these consistently), and only 7% of women were using condoms with another contraceptive method. While the partially integrated clinic, Clinic B, seemed to be more effectively promoting hormonal methods, with higher rates of injectable use (24%), in fact this was still not translating into reduced unmet needs for family planning at that site. While some explanation may lie with the greater proportions of pregnant clients there and their differentially greater unmet needs (due to high levels of unintended pregnancies) (also demonstrated at Clinic A), it is worth reiterating that pregnant women who tested positive in a current pregnancy were excluded from the denominator of unmet needs for family planning (thus only including those whose needs the clinic could have addressed). After controlling for current pregnancy and other population-level confounding, there was no difference across site in unmet needs ($p>0.05$). Indeed, there was some evidence to suggest that unmet needs remained higher at Clinic A compared to Clinic D ($p=0.083$).

10.1.2 Client satisfaction & stigma

Presenting mixed qualitative and quantitative data on satisfaction and stigma was useful for examining these constructs in depth, and for moving beyond simple quantitative comparisons. This was particularly important considering that some clients at integrated sites perceived themselves to be receiving specialist care, and vice-versa.

Quantitative findings suggested that satisfaction varied more across an axis of public-private than integrated-stand-alone lines, with aggregate scores significantly lower at Clinics B and C than D ($p<0.001$), and no difference between A and D. It was clear from both quantitative and qualitative accounts that clients were generally very happy with their HCTx services and felt supported in their reproductive goals, a very encouraging finding given earlier negative reports on stigmatisation in health facilities in Swaziland (Greeff et al., 2008) and other HIV clinics in the region (Cooper et al., 2007; Agadjanian & Hayford, 2009). However, repeated qualitative interviews were helpful at establishing a more nuanced picture. Satisfaction was comprised of various dimensions, some of which were related to attributes of integrated care, and others not. Easy access to multiple services, continuity of care, and greater confidentiality were particularly appreciated by those at integrated sites. Various attributes of specialist care were also highlighted, however, and help to explain why the most specialist site achieved the highest satisfaction scores across the models. These included a greater perceived efficiency through focus on one illness and thus reduced waiting times, specialist expertise, and greater confidentiality when the clinic only caters to HIV clients. These perceptions were substantiated by quantitative data demonstrating shorter waiting times at Clinic D (more than half as long as any other site). Given the frequent clinic visits required of them, it is not surprising that efficiency is a critical attribute of care for PLWH.

The perceived confidentiality documented by those attending a clinic only for PLWH was somewhat unexpected. Enhancing confidentiality is one area where integration could play an important role in stigma reduction. But those at Clinic A were not less likely to think others at the facility could find out their status than those at Clinic D; and those at Clinic B had over three times the odds of perceiving their status could be disclosed by attending HCTx services than Clinic D. Many clients at Clinic C were likely to think their status could be disclosed, with clients there having over 13 times the odds of disclosure fear than Clinic D, suggesting that ability to keep status confidential was unrelated to clinic model. Furthermore, clients at both the stand-alone sites demonstrated a desire to keep HCTx separated from generalist health services. Qualitative data suggested that this is partly derived from overall perceived higher quality of

care in HCTx compared to other health system encounters, a result found in other studies on satisfaction in HCTx in the region (Schneider et al., 2008; Nabbuye-Sekandi et al., 2011). Nevertheless, the potential to access peer support within HIV only clinics also contributed. In a context where many faced challenges disclosing their status at home, accessing care in an environment where other clients were known positives acted as an important source of psycho-social support. Other studies suggest that such peer interactions can also be helpful in supporting PLWH (Topp et al., 2010), including supporting reproductive decision-making (Agadjanian & Hayford, 2009).

10.2 Interpretation & implications

On the one hand, it could be argued that the reason why the integrated sites didn't achieve a consistent impact on these outcomes, in particular the failure to consistently out-perform stand-alone models on promoting service uptake, is that they weren't as integrated as they were purported to be. Services were fragmented across different components of HCTx at all sites, and this was particularly surprising at Clinic A, suggesting that it also represented a partial- or facility-level integration model, rather than the provider-level integration model that had been suggested. Challenges in defining a model 'type' have been recorded in a similar comparative study in South Africa (Stinson et al., 2010), and is a recurring problem within Integra's RCT study component in both Kenya and Swaziland (see Section 10.5.2 below). Nonetheless, among those who did access SRH services, in fact Clinic A had the highest proportion receiving those services in the same room, suggesting that some level of room-level integration does occur. And furthermore, even as a partially-integrated model, service access benefits would still have been expected compared to a stand-alone model.

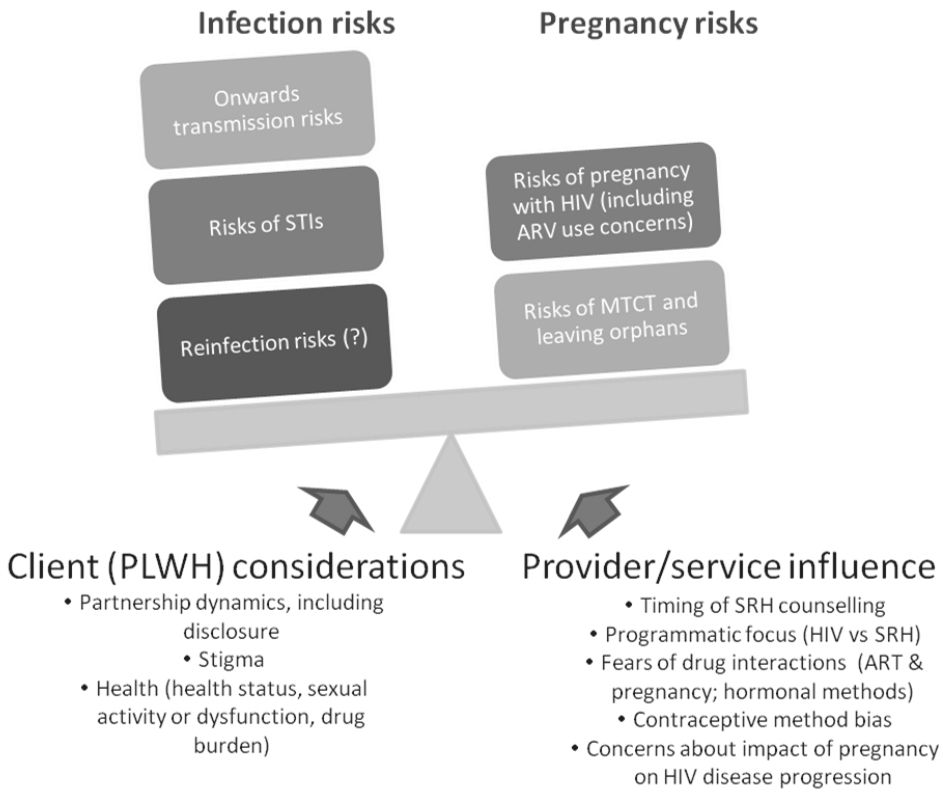
10.2.1 Balancing divergent needs

A more plausible explanation, then, is that the capacity of integrated SRH-HIV clinics to capitalise on co-location of services was being inhibited by the current programmatic focus on condom promotion for PLWH. This approach, which affected as much the demand side as the supply side, meant that a stand-alone clinic had the capacity to address certain dimensions of SRH as well as integrated sites.

Providers had to advise on, and clients in turn faced, a delicate (and often inseparable) balance of risks when considering their SRH situation and needs (see Figure 10.1). For many clients, perceived infection risks (either of reinfection or transmission to partner) may have outweighed the perceived threat of pregnancy, despite fears of vertical transmission to children or leaving

orphans. This may have been compounded in a context where nearly one in three male clients and every other female client do not know their partner's status, thus placing greater weight on the importance of infection prevention strategies. Therefore, despite providers' own concerns about unwanted pregnancies in their client population, concerns about the teratogenicity of ARV drugs in pregnancy, or their recognition that condom use remains problematic, the advice, reiterated through repeated service contacts and counselling sessions, was that condoms were the preferred method of choice for PLWH. The cessation of other more effective (contraceptive-wise) hormonal and long-acting methods ensued, at least among some clients.

Figure 10.1: Balance of fertility and infection risks for PLWH



On the one hand, high rates of condom use in this population are encouraging and an important achievement underscoring the role that the health sector can play in motivating preventive behaviours in PLWH. As noted in Chapter 2, several other studies have demonstrated high rates of condom use among HCTx clients and one group attributed this to the "longitudinal and integrated regular contact with the [ART clinic] versus the intermittent contact with government clinics more commonly experienced by women not receiving HIV treatment and care" (Kaida et al., 2010, p.7). This study supports those findings, suggesting an important impact of repeated health service contacts in promoting a renewed motivation to use condoms among PLWH. Too

often, condoms have been neglected as an unrealistic and futile HIV prevention strategy (Potts et al., 2008), ignored in favour of bio-medical options (Padian et al., 2010), or ignored by the family planning community as an ineffective contraceptive method (Berer, 2006). Yet condom use in sub-Saharan Africa has been increasing over past decades, and they are now the dominant method of contraception among young, single women in the region (Cleland & Ali, 2006). It has also been highlighted that their potential to act as a dual protection method gives them an advantage which "is more important than the condom's higher rate of failure in preventing pregnancy than other modern methods" (Cleland & Ali, 2006 p.1791) an attribute that is critical for PLWH. In situations of infrequent sexual intercourse, common among PLWH initiating treatment, their temporary use is particularly helpful.

Using condoms alone for family planning also may have certain benefits over dual method use. This study found that some clients appreciated the relative logistical ease of using one method (i.e. less visits and less effort), and using condoms for family planning helped justify their use for infection control. The fact that a crude analysis suggested higher rates of consistent use among those using condoms for pregnancy prevention than those using them for other reasons, suggests that promoting their use for pregnancy prevention could help achieve infection control goals (although further analysis is needed since the two groups may have had very different social and behavioural profiles). Other reports also suggest that consistent condom use is diminished with the use of more effective family planning methods, although most studies are from the US (as summarised by Cates & Steiner, 2002), or are unadjusted (Morrison et al., 2007). Nonetheless, this suggests that a SRH strategy for PLWH relying predominantly on condoms may be a relevant and useful approach in this hyper-endemic HIV setting. Furthermore, ongoing debates about the relationship between hormonal contraceptive use and HIV acquisition, HIV infectivity, HIV disease progression, as well as concerns about drug interactions (and impact on drug efficacy) between ARVs and hormonal contraceptives (WHO, 2010b), imply that a SRH strategy for PLWH based on hormonal contraceptives may still be problematic.

However, it has been noted that HCTx clients are a captive audience for health promotion interventions (Crepaz et al., 2006), and the longitudinal contact with health services offers an invaluable opportunity to address SRH needs as well as HIV needs (Myer et al., 2005b). One may therefore have expected indicators of unmet needs to be lower in a population regularly attending clinics than the general population. Furthermore, PLWH desired more information on family planning, and their common concerns about side-effects (perhaps not unexpected, given

the heavy drug burden of ART and complex health concerns of PLWH on treatment) imply that more individualised counselling on contraceptive use is required. It should also be stressed that the potential for reporting bias in condom use consistency measures, even with the use of an additional 'empathetic' indicator in this survey, is still strong, and may be stronger among HCTx clients than others given the repeated counselling received and potential feelings of guilt after engaging in unprotected intercourse. Unintended pregnancies were highly prevalent in this sample, and the qualitative data certainly suggested that many of those relying on condoms struggled to achieve consistent use. A strategy based on condoms alone is therefore not a panacea, and particularly problematic in a setting such as Swaziland where there is no recourse to safe abortion services and emergency contraception remains mostly unavailable. Agadjanian and Hayford, who found a similar programmatic approach in Mozambique noted that the "simplistic and uncompromising message [...] stressing condom-based contraception may pose serious challenges to successful formulation and implementation of reproductive goals among seropositive clients" (Agadjanian & Hayford, 2009 p.S103). Laher et al. also found an 'over-emphasis' on condoms in a qualitative study in South Africa, as well as a degree of scare-mongering on the risks of unprotected sex (i.e. leading to drug resistance) (Laher et al., 2009). The proportion of condom users (alone) was very high in this study; greater than another recent study among HCTx clients in an urban clinic in South Africa, where higher rates of dual method use were also documented (40%, compared to 7% in this study) (Kaida et al., 2010). Given that 65% of respondents reported wanting to cease childbearing, and the average desired birth spacing to a next pregnancy among the remainder was 3.4 years, a strategy based on condom use alone seems inadequate.

Furthermore, providers' concerns about reinfection, which were being passed onto clients, including those in known sero-concordant relationships, may be unwarranted. As early as 2008, WHO guidance noted that "it is difficult to find strong evidence to support condom use for monogamous, sero-concordant, HIV-infected couples to reduce the risk of superinfection" (WHO, 2008a) and studies also point to the elimination (or near elimination) of horizontal transmission risk in those with low viral loads (<400 cells/µl) (Attia et al., 2009). In the Swaziland context, where multiple concurrent partnerships are very common and STIs are highly prevalent (PHR, 2007), infection concerns may be understandable, but it is an area where the balance of risks and benefits need to be delicately weighed by the client, in consultation with their provider.

This study has also demonstrated transient patterns in sexual desires and activity in PLWH initiating treatment. A rote approach to SRH service delivery, where all clients are counselled

according to a policy list at prescribed points in time (with a seeming focus of activity around ART initiation) may therefore be inappropriate. It seems that those regaining libido after several months on treatment may be at a particular risk. Other clients desired to receive fast, efficient services, and thus routinised approaches in which all clients have to receive group health counselling on every visit may even be off-putting.

10.2.2 A change in approach?

Therefore, a more individualised and tailored approach to SRH counselling and service provision is needed. If providers are to achieve this, and 'go beyond condoms', the debate may need to move beyond a simple health care structure (integrated/specialist) argument. Instead, more attention may be needed on the quality of care, and the achievement of a more holistic and client-centred model of integrated care in which client needs can be adequately explored and addressed.

The differences between fragmented and integrated models, under this conceptualisation, are summarised in Table 10.1. This table is adapted from a commentary on integrated care published in 2010 (Church & Lewin, 2010). In a fragmented care model, which was still found to some extent in the integrated clinics included in this study, care attributes (such as care differentiation between different providers, lack of continuity over time, task-orientation to care, or routinsation of care) can inhibit the attainment of what Zwarenstein has termed 'cognitive integration', i.e. providers' capacity to think beyond the presenting condition (Zwarenstein et al., 2011). Client-centred and integrated models, in contrast, emphasise the personalisation of care to individual needs, continuity of care, and client participation in shared decision-making (Lewin et al., 2007; McCormack & McCance, 2006; Mead & Bower, 2000; WHO, 2008b).

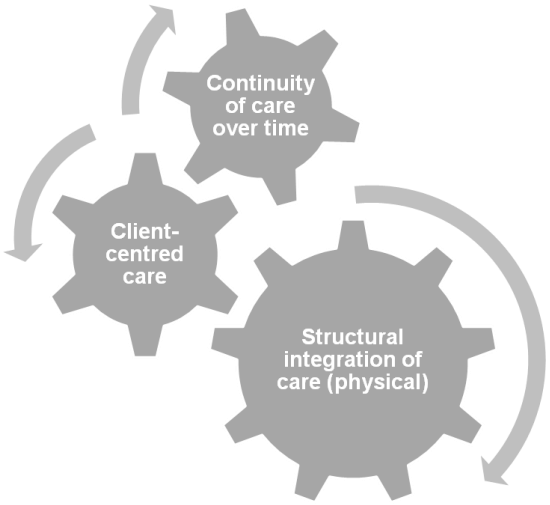
Integrated care, continuity of care and client-centred care are therefore interdependent and mutually reinforcing (see Figure 10.2) – it is hard to achieve client-centred care or continuity of care if clients have to visit multiple providers either within one visit or across multiple visits; yet it is hard to achieve the provision of multiple services in one room if time is not dedicated to counselling and the exploration of client needs.

Table 10.1: The differences between fragmented and client-centred/integrated care

Fragmented care	Client-centred integrated care
▪ Separation of different components of health care between different providers. ▪ Biomedical model of care, which focuses on diseases and their management. ▪ Structured to meet the need of health care providers. Client needs are marginalized. ▪ Poor continuity of care, even within a single health centre visit. ▪ Focused on the completion of a series of discrete tasks (task-orientation). ▪ Depersonalized and highly routinised. ▪ Few opportunities for communication between health care providers and clients.	▪ Client viewed as a whole person (holistic care), with individual preferences situated within a socio-environmental context. ▪ Biomedical *and* socio-environmental model of care. ▪ The individual's experience of health and illness is elicited. ▪ Continuity of care. ▪ Personalization of care. ▪ Shared control of the consultation, and shared decision-making on treatment or management options. ▪ Opportunities made and taken to integrate care.

Source: Adapted from Church & Lewin (2010)

Figure 10.2: Inter-dependence of structural integration, client-centred care and continuity of care



But the question of how feasible a more client-centred approach is in the context of busy out-patient HCTx settings in Swaziland remains. HIV incidence remains high, and numbers of PLWH are expected to increase from 185,803 in 2009 to 216,735 by 2015 (NERCHA, 2010), at a time of cuts in government spending across all social sectors, as well as a reduction in donor funds.[47] A policy change to earlier initiation of ART is also likely, based on recent WHO guidance stipulating

[47] Swaziland failed in its recent application for Round 10 Global Fund financing.

ART initiation at 350 cells/µl (WHO, 2009), implying even higher client loads in HCTx clinics. Task-orientation can also be seen as a rational response to work pressures and human resource shortages (van der Walt & Swartz, 2002). Where queues are long and time is short, it may make sense for care to be structured around the delivery of discrete and routinised tasks performed by multiple health providers. Other studies suggest this helps ensure a fast flow of clients in and out of the door, maintains 'order' by moving patients systematically and predictably through a series of clinical stations, and allows task-shifting to lower skilled cadres of providers (Lewin, 2004; Zachariah et al., 2008). The privileging of task completion over more integrated forms of care may also act to protect providers from the needs and demands of patients, which at times may be overwhelming, by ensuring that there are few opportunities for these needs to be expressed or addressed (van der Walt & Swartz, 2002). In this study, perceptions of heavy client loads, even if not actually always realised, as well as client demands for fast consultation turnarounds, meant that spending additional time with a client within one consultation remained challenging across all models. Client load has been used to explain short-comings in other integration studies (Foreit, 2006; Maharaj & Cleland, 2005). For clients, the desire for efficiency may also have also impacted on their low rates of self-initiated SRH discussion.

Notwithstanding these constraints, in settings where the functional separation of service components persists, there may still be scope for action. This study has demonstrated that queue pressures and staff shortages do not tell the whole story. Client load was actually lowest at Clinic A, and average at Clinic B, yet integration did not always happen. A service organisation structure in which client load is concentrated into a few hours in every day has been documented in other studies in the region, and found to be a particular impediment to integration goals (Guise, 2011; Adamchak et al., 2010). At Clinic A this was exacerbated by the sessional attendance of the doctor. But at Clinics B and C, there seemed to be no clear rationale, aside from the default 'modus operandi' of clinic organisation. Studies have demonstrated, however, that additional time can be made available through more efficient ways of working (e.g. task-shifting) or through more structured counselling sessions which tailor the provision of information to the client's needs and situation (Janowitz et al., 2002; Kim et al., 2005). Furthermore, positive findings on interpersonal care in this study are encouraging, and suggest that continuity of care and trusting relationships are emerging in this HCTx setting. It has been suggested that HCTx is by definition more client-centred than other types of health care, due to the longitudinal patient contact required, and this has been found to increase trust in services over time (Gilson, 2006).

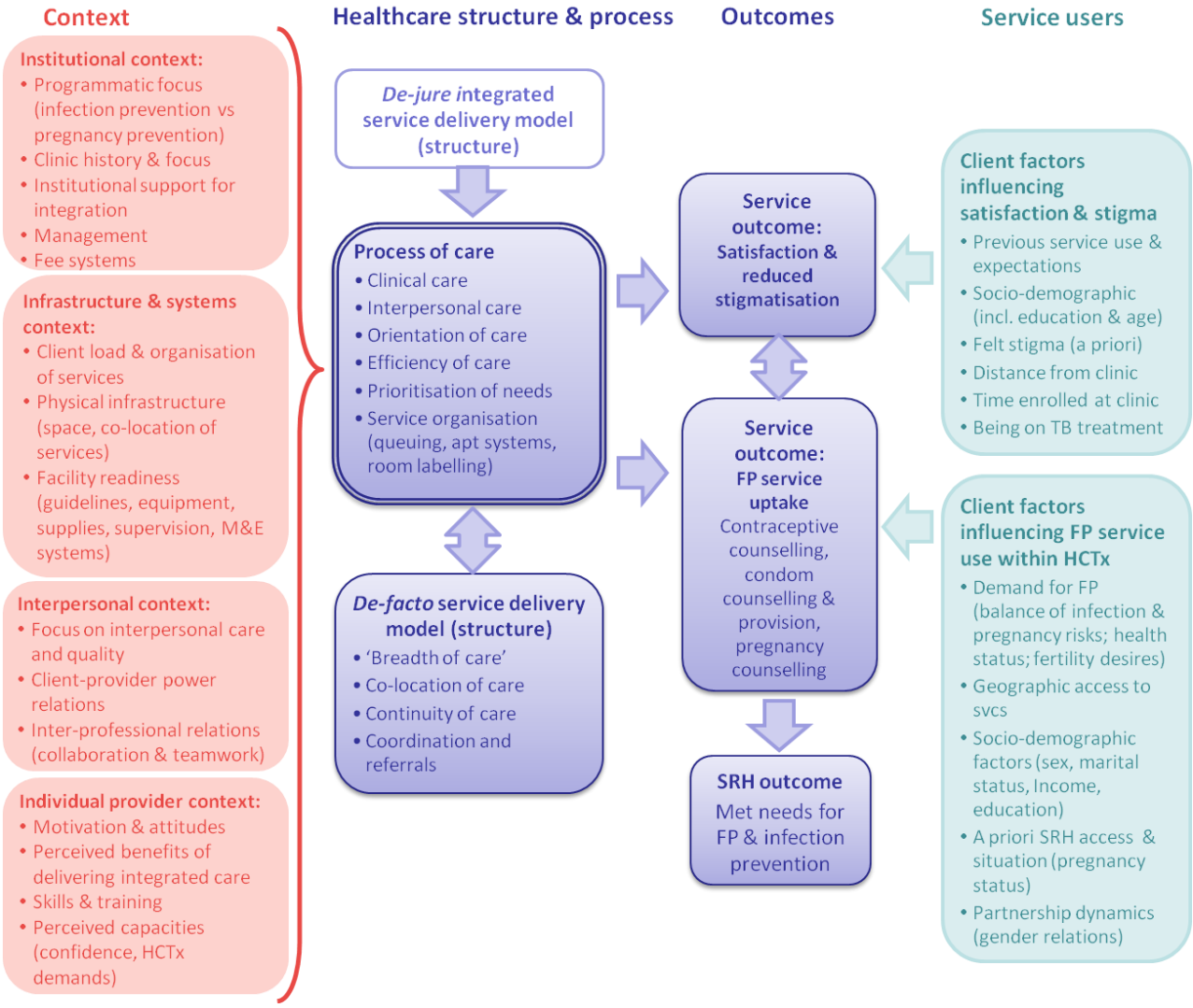
Provider motivation may remain a challenge, however. While providers here mostly understood the need for, and even desired, a response to SRH needs among PLWH, factors such as 'clinical territorialism', a reluctance to take on additional work tasks, and lack of practice or confidence, contributed to integration failures. The balance of power relations between clients and providers also remain inhibitory; clients who are fearful to express needs clearly cannot get comprehensive care, and the fact that most SRH services accessed in this survey were through the offer of the provider, rather than the demand of the client, is testimony to this challenge. Further attention may also need to be paid to fostering greater collaboration between sub-teams. Studies on the organisation of industry suggest that differentiation into sub-units and departments can allow greater innovation, but require greater coordination, and "collaboration required to achieve unity of effort" (Hatch & Cunliffe, 2006 p.113). Health systems need to support this collaboration and coordination.

10.2.3 Revised conceptual model

A revised conceptual framework is shown in Figure 10.3. The findings have demonstrated that achieving any benefit from an integrated model (structure) cannot be achieved independently of the process of care, which mediates all impacts of a structural model on service and health outcomes. Thus, in place of a three way triangle in the original model (see page 68) in which structure, process and outcomes are independently related, here the 'de-facto' model of care is transformed by process into the real-life 'de-jure' model through which clients experience services. The model therefore incorporates the 'dynamic response' theory discussed in Chapter 3 (Blaauw et al., 2006; Ssengooba et al., 2007), and integration is clearly centred around process of care. The revised model also details the key contextual factors influencing the delivery of integrated care at institutional, infrastructural & systems, interpersonal and individual levels, that were identified in Chapter 9. Structure, mediated by process, in turn influences the two key service outcomes, uptake of services and client satisfaction (including perceptions of stigmatisation). While the original model listed these outcomes independently, this model shows that they are inter-related, since service uptake influences satisfaction and vice versa. But as this research has demonstrated, user needs and characteristics have an important influence on these service outcomes, and the important role of a range of social, health-related, geographic and demographic factors within client user systems have been included as a separate influence to the service provision context. For example, perceptions around quality and satisfaction are heavily influenced by previous experiences and expectations of care; and uptake of family planning services is intrinsically linked to perceived needs, in turn linked to

health status, sexual activity and perceptions of the contrasting risks of infection and pregnancy prevention.

Figure 10.3: Revised conceptual model



10.3 Study reflections

10.3.1 Strengths & limitations of the research

This study has used a comparative case study design which has allowed an in-depth process evaluation in a real-life setting. The realist design did not seek to make generalisations about the absolute effectiveness of particular models of care, but rather sought to understand and explain experiences in these four different clinic models, and identify the pathways through

which integrated care could impact upon client outcomes. The identification of the layers of context influencing the organisation of care has been critical, and has supported a more reflexive account of what are inherently social processes in operation in health facilities. The importance of developing "thick descriptions" of experiences situated within this context, including a recognition of the critical role of human behaviour in policy implementation, are essential within health policy and systems research (Gilson et al., 2011). Factors such as provider motivations, accepted interaction dynamics with patients, normative routines of care, and client load all demonstrated that a 'model' goes far beyond a simple structural debate. Understanding the interaction between context and process allows lessons to be learned, and there are likely to be many parallels that can be drawn upon in other settings in the region, both within Swaziland and in neighbouring countries, where contextual influences are similar. Those seeking to transfer these lessons, though, must take account of the very high HIV prevalence in Swaziland, which has strong bearings on the role of different models of care there, the substantial levels of donor involvement across the four study clinics, and the relatively easy access to doctors enjoyed by clients at these sites, which may not be replicated in other settings in the region.

Mixed qualitative and quantitative methods have been essential for this assessment, and have added rigour to the case study analysis through the comparison of results across multiple sources of evidence (triangulation) and through the use of the different methodologies to explore different facets of concepts under investigation. For example, a measurement score of aggregate satisfaction was complemented by a qualitative analysis exploring the construct of satisfaction and its meaning, and how this relates, or not, to service integration. Mixed methods have also been essential for gaining the perspective of both service users and providers. A matrix approach for thematic analysis allowed cross-case and cross-clinic comparisons of qualitative data, and facilitated a more inductive approach to identify emerging themes. The quantitative methods adopted a more deductive approach, but questionnaire design was influenced by early qualitative findings, and thus important variables of interest could be recorded, described and analysed quantitatively.

The in-depth process evaluation also helped to overcome an important potential limitation. Clearly, the 'models' did not always represent the 'ideal type' of structural integration that they were supposed to, since the actual extent of service integration was found to be different in practice to that purported by programme or clinic managers. This also meant a comparison of provider-level and facility-level integration models was inhibited. Indeed, there may have been more intra-clinic than inter-clinic variation, as clients themselves highlighted. However, this

same problem can still apply with larger samples and the in-depth process evaluation therefore helped to identify these definitional problems. The weakness of a small sample of clinics thus became an important strength, since it was possible to gain a detailed and nuanced understanding of how care was being provided in practice.

The study also has other important limitations, however. The focus on HCTx services, while allowing a detailed analysis of the SRH needs of PLWH and their service use patterns, may also provide a limited picture of the potential of service integration. Integration of ART into MCH settings can have positive impacts on service access and user experience (Myer et al., 2005b), and these benefits could have pertained in the integrated Clinics A and B, yet were not investigated here. The study has also focused primarily on family planning (broadly interpreted), and not other aspects of SRH for PLWH. As noted in the literature review, this population has critical needs for cervical cancer screening, STI services, sexual health counselling (including dysfunction) and violence services. While data on these needs and access to a broader spectrum of services were reported in the survey or mentioned in IDIs, these findings were not fully reported here (see below under future research), and thus the report is not comprehensive. Again, however, a focus on family planning, broadly interpreted to allow investigation of infection prevention services, allowed a more detailed analysis of this specific service component.

The observational study design, notably the cross-sectional survey, also precludes any determination of causality between exposure (to clinic) and outcomes reported. Reverse causality may have been problematic at integrated clinics where SRH service use could have led to the use of the HCTx services at the facility (though this still suggests integration benefits). Longitudinal research would be required to establish a more accurate association between integration model and SRH outcomes, and would also be useful at examining satisfaction and stigma trends following service integration. As noted, though, the additional use of qualitative methods aimed to compensate for this weakness, by examining provider and user perceptions on the way that service processes impacted on outcomes. The fact that qualitative interviews with clients were repeated at three points in time further enhanced qualitative rigour. This was particularly important and useful in examining patterns in client satisfaction and stigmatisation, which varied across repeated contacts with services. It also allowed further investigation of changing patterns in sexual activity, fertility desires and family planning needs across the continuum of HIV initiation and stabilisation on treatment.

The effect of the multivariable modelling approach taken must also be mentioned as a potential limitation. All conceptually related confounders (as defined in Figure 4.2 on page 89) were included in the multivariable regression models, resulting in models with large numbers of parameters. While this approach was selected to best adjust for all baseline differences in the populations (recognising that the different covariates are also associated with each other, as well as their effect on the 'clinic' exposure), models with large numbers of covariates can be underpowered (Harrell et al., 1996). As noted in the methods chapter, a sensitivity analysis with a more parsimonious approach did demonstrate narrower confidence intervals around some estimates, implying that potentially statistically significant associations within the models could have been obscured. This is a particular concern where there was some evidence of association ($p<0.15>0.05$) (although those with weak evidence of association were usually noted). Inclusion of all covariates also risked overadjustment by controlling for variables that may have lain on the causal pathway between clinic and outcome, which therefore risks underestimation of the effect of the clinic exposure on outcomes. Efforts were made to exclude variables lying on the causal pathway, but reality is compex and some may have been hard to identify as such. Further analysis could aim to construct regression models with a tighter fit of the data to the model. More sophisticated modelling strategies such as structural equation modelling might also be possible to pursue, but were beyond the scope of this thesis.

The focus on client satisfaction, rather than an objective measure of quality of care, is also a weakness. While satisfaction may indicate a certain level of quality, the two do not always correlate, and as noted in Chapter 2, higher quality can even raise expectations which can lead to lower levels of satisfaction (Bond & Thomas, 1992). Given the potential for integrated services to increase provider workload, and the potential for more specialist care to be of higher technical quality, this is an area that deserves further research. Satisfaction scales, however, did attempt to evaluate important aspects of interpersonal care, however, and one would expect these to also be influenced by any additional workload or decreased provider attention with service integration. Longitudinal research, monitoring objective quality indicators following service integration, would help fill these gaps.

The study design also suffered from selection bias, caused by the self-selection of clients to the different clinics, and by response bias. Regarding the latter, despite attempts to ensure clients interviewed in the survey were randomly asked for interview as they exited facilities, refusal rates were not consistent across clinics. While there is some doubt on the true refusal rates due to recruiter data entry error, rates were higher at Clinic A and B than elsewhere, and unfortunately no further data were captured on this group. This may have been particularly

problematic in measurement of satisfaction since those refusing may have demonstrated markedly different levels of satisfaction to those accepting. Again, qualitative methods helped overcome this potential weakness, providing an in-depth analysis of the satisfaction construct. Regarding client self-selection, randomly allocating clients to use different clinic models could be a strategy to reduce bias but is logistically very challenging and has not been attempted to-date in integration studies. Clients self-selected to attend each facility, and each had significantly different client profiles as a result. However, the different user profiles at each site formed an important aspect of the service description and these were intrinsic to the models under investigation. The use of multivariable models attempted to control for the very important potential confounding in the study sample, but is unlikely to have completely eliminated it and unmeasured confounding likely remained. Certain confounding variables may also have been inadequately measured, for example socio-economic status was based only on a household income variable. One area where clinics differed substantially was with the number of currently pregnant women at the integrated sites compared to the stand-alone sites. Given that current pregnancy is itself an SRH outcome, this was problematic. As noted in Chapter 7, the main SRH outcome, unmet needs for family planning, was also measured very differently among the pregnant and non-pregnant, yet failure to control for this variable would have led to biased estimates of the effect of clinic model. The exclusion of those who tested in a current pregnancy from unmet need analysis helped to reduce bias derived from this variable. Selection bias was also inherent in the focus on users, rather than non-users of services; this is particularly critical when examining satisfaction of care or experiences of stigma. Further research being conducted within the Integra project among non-service users on their perceptions of services should help overcome this weakness.

The study also suffered from forms of information bias. As noted above, it proved challenging to acquire valid measures of condom use consistency, which ultimately was very important for trying to determine a robust measurement of unmet need for family planning in this population. The use of two independent measures helped to overcome this, as well as the use of qualitative methods, but did not eliminate this reporting bias. This bias may also have been differential across model, with those receiving more counselling potentially more likely to try to give a socially acceptable answer on consistent condom use. A similar problem could also have occurred with reporting on sexual behaviours. There was also no way to validate clients' ART status; while interviewers were told to double check this potential problem during recruitment, there may still have been some women who were receiving mono-therapy who were classified as HAART, in particular at Clinics A and B. There may also have been problems with reporting

timeframes; uptake of services was measured 'since testing HIV positive', therefore some clients may have accessed services elsewhere (and/or prior to clinic enrolment), implying an overestimation of clinic model effect. As noted in Chapter 7, however, only 10% of clients did access their SRH service elsewhere and exclusion of this sub-group did not have an important impact on the effect estimates. The omission of a service cost measure from satisfaction scales is one other important area of concern, and aggregate satisfaction scores must be heeded with caution. However, the use of qualitative methods on satisfaction helped to ensure the complexities of client satisfaction constructions were documented.

As noted, the use of mixed qualitative and quantitative methods was an important strength which helped to elucidate different aspects of PLWH's experiences of health care processes and outcomes, and allowed greater iteration and reflexivity between different stages of data collection and analysis. Emerging themes from qualitative findings were incorporated into the questionnaire, but were also essential for explaining quantitative findings. These, in turn, were critical for quantifying the extent of differences in client experiences between the clinics, which would have been impossible with a qualitative-only approach. Interviewing both providers and clients also increased the validity and rigour of research findings, through comparison of findings between different groups. The use of qualitative findings was critical in allowing greater contextualisation of the research findings, which are then essential if lessons are to be learned and applied elsewhere.

However, the qualitative findings were not without their own limitations. The sample of both providers and clients at each clinic was very relatively small, and full data saturation may not have occurred. It was unfeasible within the study time frame to interview a larger sample of respondents, though in instances where findings were inconsistent, further interviews were conducted at a later time point. Both qualitative and quantitative client interviews were also conducted in SiSwati, with post-hoc translation of transcripts for qualitative, and a priori questionnaire translation for the survey instrument. The questionnaire translation was reviewed by an independent research assistant, and was also thoroughly pilot-tested. Some qualitative translations were reviewed by an independent researcher, but not all, and thus scope for translation error existed. Where prose seemed either unclear or inconsistent, the author requested clarifications from interviewers. Conducting qualitative interviews in SiSwati was an important strength of the study since it allowed respondents to freely express themselves without the interruptions of simultaneous interpretation. It did mean, however, that the author had less control over the direction of interviews and probing may have been more restricted as a consequence. Transcription review and ongoing interviewer training aimed

to minimise this limitation, as well as repeated interviews over time. The influence of the author's background on qualitative analysis should also be acknowledged: as a foreigner conducting research in Swazi health facilities, her data analysis and interpretation was necessarily influenced by prior experiences of health care in developed country settings or other LMICs. Findings from IDIs and the way respondents interacted with the researchers and research process may also have been influenced by perceptions on her role and influence. This may have contributed to a greater courtesy effect with clients, or an enhancement of reported benefits of integration among providers.

10.3.2 Reflections on the research process

Spending a year collecting data in Swazi HIV clinics was critical to the study design, and highly enlightening to the author, a researcher from the UK. Conducting research on service integration at the time of the study was particularly interesting given the substantial global health interest in the subject. Being in the field enabled a direct contrast between policy rhetoric of international agencies (including a personal visit from the Director of UNAIDS to one of the integrated facilities extolling the benefits of service integration), with the reality faced by service providers and the desires of clients on the ground.

Prolonged engagement with providers and managers was particularly fruitful and allowed the establishment of a strong rapport, permitting them to open up more during interviews. While at times observations of maltreatment or neglect of clients was distressing, in general the extent of positive provider attitudes to providing HIV care and client reports about the good quality of care received was encouraging and cause for optimism for the treatment programme. Repeated IDIs with clients were also very interesting and enlightening, and their personal narratives allowed an in-depth understanding of their life circumstances, experiences living with HIV, and interactions with the health system that cannot be grasped through quantitative instruments. One regret is having insufficient time to analyse these narratives in further depth.

Conducting mixed methods research also allowed the author to develop her own research skills in different methodologies. While at times the frustrations of being a 'jack of all trades, master of none' was palpable, the evident benefit gained from an understanding of both epistemological paradigms made the effort worthwhile. It does imply, however, that further research training is still required. Regrets remain also in not being able to collect more data, including observational data of client-provider interactions, which would have enriched the interview data collected.

10.4 Policy and practice recommendations

Given the complexities of balancing HIV prevention and pregnancy prevention goals and the ever increasing client loads in HCTx settings in Swaziland, what is an appropriate way forward for SRH and HIV policies?

While not presented in the results chapters of this thesis, some of the providers in the study clinics discussed suggestions about a way forward in their respective clinics. At the two stand-alone sites, some providers felt that the HCTx nurses should be delivering at least basic SRH in their consultation rooms, while others proposed either allocating a separate room or a separate nurse to focus on that aspect of care. And others thought that strengthening referral mechanisms may be sufficient to address SRH needs, in particular if services could be moved closer (for example at Clinic D, the council had proposed creating a new PHC clinic across the street which could offer family planning). At the integrated sites, fewer recommendations were given (since most considered themselves sufficiently integrated) but several providers articulated the need to make sure all nurses at the facilities were trained in HCTx (particularly important given the extraordinarily high prevalence of HIV in Swaziland), and two felt that this could be facilitated through further task-shifting, in particular by allowing nurses to initiate ART.

A variety of policy options and approaches are possible and therefore need to be considered by local programme managers, as well as those working in similar contexts in sub-Saharan Africa. Recommendations here are based on the study findings, the providers' suggestions and existing literature on service integration. Recommendations are presented according to key areas of action.

1) Ensure diversity in models of care

Different models of HCTx may be appropriate for different types of clients. Stand-alone HIV services seem to have an important role to play in the Swazi HIV programme, and may be a particularly efficient way of scaling up access to HCTx in urban locations, where demand for services is immense. It has been noted elsewhere that primary care settings in the region run the risk of being over-run by the complex needs of PLWH (El-Sadr & Abrams, 2007), and the maintenance of dedicated HIV services may continue to help prevent this added strain on OPD and PHC settings. While there may be ongoing concerns about the financial implications of these separate services on other health services, the rationale for maintaining or even increasing stand-alone sites seems particularly strong in a setting like Swaziland where so many are HIV-infected. This study has demonstrated that a completely separate HCTx service can

achieve positive outcomes, even on SRH, when attention is paid to the quality of care provided, in particular the standard of interpersonal care, and efforts are made to ensure confidentiality (see below). Stand-alone services may also be particularly appropriate for men, many of whom already delay testing and treatment initiation, and who struggle to attend women-focused primary care settings (Askew & Berer, 2003); for young people, who may appreciate greater confidentiality there or who have fewer needs for MCH services; or those without children or partners. In Swaziland, and also within more concentrated HIV epidemics, stand-alone services may also be appropriate for reaching more marginalised groups and at-risk groups, such as sex workers.

Integrated clinics, where a full range of SRH and HIV services are available on site, also have an important role in Swaziland and elsewhere in the region. They seem particularly important for addressing the needs of pregnant women and those with HIV positive children. Furthermore, in more rural contexts it will likely remain impractical and unfeasible to deliver HIV care through stand-alone settings, and integration into PHC will be a necessary strategy to increase access to HCTx (Buvé et al., 2003; Gilks et al., 2006; WHO, 2003).

The choice of appropriate models may also need to be based on a thorough consideration of the costs of different options. Further research planned on cost-effectiveness analysis (see below) may contribute to policy choices in this area.

2) Consider a range of interventions to address SRH for PLWH

Every facility has its own particularities and structure and thus a one-size-fits-all approach to addressing SRH for PLWH is unlikely to be successful. A range of potential intervention options for HCTx services is outlined in Table 10.2, with a summary of their advantages and disadvantages. At a minimum, all HCTx providers should continue to receive training in basic family planning for PLWH, but this should be broadened beyond a strict emphasis on condoms for infection and pregnancy prevention. Ideally, all HCTx providers should have up-to-date training (and skills), guidelines and job aids on use of key contraceptive methods by PLWH including pills, injectables and the IUD so that comprehensive counselling can be given when required. This also includes lay counsellors who give group counselling and seminars to PLWH. Other possible options include those proposed by providers, such as assignment of a dedicated SRH nurse within HCTx clinics (which might be particularly appropriate in large clinics), or facilitating referral processes. Facilitated referrals have been found in other studies to encourage uptake of referral services (Green et al., 2011; Abrams et al., 2007), and studies

suggest that positive outcomes can be achieved through well-designed partially integrated models involving referral (Chabikuli et al., 2009; Liambila et al., 2008). Attention also needs to be paid to the timing of interventions, to ensure that a continuity approach, expanding service access beyond ART initiation. Studies suggest that participatory methods involving clinic staff can be particularly effective at identifying practical clinic organisation systems (Adamchak et al., 2010), and this has also been encouraged in the context of PNC in the Integra project.

Table 10.2: Service model options for addressing SRH within HCTx settings

Strategy	Pros	Cons
Dedicated SRH nurse delivers SRH in HCTx clinics	• Greater knowledge on SRH and potentially higher quality of care • Frees up time for HCTx nurses • Allows provision or more complex methods or services (e.g IUD, cervical cancer screening) beyond condoms • Could be facilitated by appointment systems	• Requires internal referral and potential loss of clients • Clients may have to queue again • HCTx nurses may neglect to discuss SRH • Additional staff member(s) required • Requires transfer of records between departments
All HCTx providers offer basic SRH services	• Clients receive pills & injectables from HIV provider in same consultation, in addition to condoms • Facilitates service uptake • Ensures continuity of care	• HCTx nurses may resist added burden of work • Requires collaboration between HIV and SRH units in MoH to ensure commodity supply • Additional HCTx nurses may be needed.
Facilitated referral to SRH unit/building/ department (within one facility)	• Clients less likely to drop out and may avoid queuing • Continuity of care (ensures SRH nurse has knowledge of HIV status) • Can still deliver condoms effectively in HCTx	• Additional personnel required to transfer clients • Potential loss of confidentiality in transfer process • Clients may queue again • Potential loss of continuity of care (without computerised cross-service records)
Counselling and referral for SRH	• No additional staff required • Easier for HCTx staff to deliver in context of current service structures • Can promote condoms easily • Potential higher quality of care in dedicated SRH service	• Clients may not reach referral site • Clients may not disclose HIV status in a new location and may not get advice tailored to their needs • No continuity of care (without computerised cross-service records) • Status quo may be maintained (staff can overlook SRH, may continue to focus on condoms alone)

3) Ensure an evidence-based and context-specific policy environment for SRH for PLWH

While not all HCTx providers may be delivering SRH services, all need to have basic and up-to-date knowledge on the topic. Guidance on SRH for PLWH should be incorporated into national HIV treatment guidelines and training programmes, including protocols on family planning counselling for PLWH, cervical cancer screening and treatment, STI/RTI screening and

management, and counselling on sexual function and dysfunction. Treatment guidance should also be updated to incorporate recent WHO guidelines on reinfection risks (or lack of risk of super-infection). To facilitate this, a broader debate may be required at national levels to determine the appropriate balance between condom promotion and hormonal/long-acting method promotion among PLWH. M&E tools and other provider tools (e.g. patient treatment booklets, screening tools, registers) can also be updated to include information on contraceptive use among PLWH (not just last menstrual period), to promote provider attention to the issue.

In order to support access to contraceptives within services, greater collaboration may be required between the HIV and SRH units of the MoH. While SRH and PHC units can now procure and deliver ARVs, mechanisms need to be identified to permit HCTx units to procure and supply contraceptives. This may require reformulation of M&E systems, for example ensuring HIV registers can capture data on contraceptive distribution.

4) *Consider the reorganisation of primary care structures and promote client-centred care to ensure full integration*

Promoting client-centred care within HCTx could involve a range of supportive strategies. Experience in promoting positive client-provider relations within primary care in South Africa suggests that participatory workshops with providers can again be useful here, in helping those at the front line to develop a critical awareness of the causes of problems in service delivery and relationships with clients (Fonn & Xaba, 2001). Training methodologies that promote counselling skills and patient empowerment and involvement in decision-making can be effective at increasing the promotion of separate SRH and HIV service components (Liambila et al., 2009; Kim et al., 2005). Providers need to be trained to support clients in weighing up their own situation, and evaluate risks of both pregnancy and infection. The provision of posters or leaflets on SRH themes (or other important health topics for PLWH) could help facilitate the provision of relevant information to clients, or encourage a more 'client-driven' form of integrated care. The use of job aids or screening tools can also support or remind providers to raise certain topics (Foreit, 2006). At Clinic B, the inclusion of a 'contraception' data entry point on HIV forms was said to facilitate discussion too.

Overcoming the functional separation of service components in primary care settings in LMIC may be more challenging. In the absence of computerised record systems, the use of generic PHC or SRH registers may facilitate multi-service provision, a strategy that had been adopted at

Clinic A. The use of appointment systems could also be considered; this had been adopted at Clinic D which facilitated a more even flow of clients throughout the day and may have alleviated queue pressures which can necessitate more rushed care. HCTx has created record keeping systems on a scale previously unknown in PHC in Southern Africa, and this could be capitalised on to promote continuity of care for other health topics including SRH. Systems need to be in place to allow paper records to be transferred easily to other clinics. Clinics may also want to consider adopting mechanisms to allow clients to see the same provider on repeated visits.

5) *Take steps to maintain confidentiality of PLWH across all models of care, while still encouraging peer support*

In integrated sites, client confidentiality can be maintained in various ways, including using discrete reception or triaging systems; avoiding room labelling of HIV-specific consultation rooms (and preferably through the full integration of services thereby removing the need for an HIV-only consultation room); ensuring ART drugs are dispensed with other drugs (again through discrete windows); avoiding public statements about groups of patients; or avoiding use of distinct files or client cards for PLWH. In stand-alone sites, confidentiality can be enhanced by avoiding clinic 'HIV' labelling; creating discrete entrances for HIV units; and ensuring separate waiting areas for HCTx and VCT clients (or others). Visits to other clinics in Swaziland suggest that side entrances to HCTx units may also be feasible in larger health facilities or hospitals. In all models, services should foster interaction and mutual support among PLWH (e.g. through the presence of lay (positive) workers active and visible in those settings, through encouraging attendance at support groups).

6) *Consider the particular needs of pregnant women and those with children*

While not a major theme of this thesis, data presented show pregnant women have particular SRH and HCTx needs, and may suffer disproportionately from fragmented care. In all settings, pregnant women should be able to access ANC/PNC services and HCTx within one clinic visit. Given the high prevalence of unintended pregnancies in this group, women should be given comprehensive family planning counselling in both the antenatal and postnatal periods. Women who give birth to positive children should be able to access HCTx together with their child.

7) Strengthen generic family planning and other SRH services in Swaziland and promote policy dialogue on abortion

While official contraceptive prevalence rates are relatively high (51%) in Swaziland, unmet needs for family planning remain pervasive in Swaziland and strengthening SRH services solely within the context of HCTx will fail to prevent unintended pregnancies experienced prior to HIV testing (Wilcher & Cates, 2010) (of which there seem to be many in this context). This study suggests that both young and older women (with many children) may lack sufficient access to family planning services, a problem common in many sub-Saharan countries, and greater attention needs to be made to making services youth-friendly. Swaziland's relatively high contraceptive prevalence may conceal high rates of contraceptive discontinuation, common elsewhere in the region (Ali & Cleland, 2010). HIV funds could be utilised to strengthen the provision of core PHC services in Swaziland to ensure wider health care needs are met.

8) Donors should reconsider policy recommendations and research strategies on integrated care

This study has added to a growing body of evidence suggesting that stand-alone services or referral models of care can equal or outperform fully integrated sites in achieving impacts on health outcomes. This includes a recent Cochrane review that concluded that *"there is no evidence to date that a fuller form of integration improves healthcare delivery or health status. Available evidence suggests that full integration probably decreases the knowledge and utilisation of specific services and may not result in any improvements in health status." (Dudley & Garner, 2011 p.2).* While many donors continue to believe the evidence is not strong enough to make firm conclusions and that more RCTs are required, case studies such as this are still useful in refuting the hypothesis that integrated care is always the best option. Those funding HIV and SRH programmes in LMICs need to consider the potential benefits of stand-alone service delivery models in reaching certain population groups and in specific contexts where the epidemiology suggests such services may play an important role. A more balanced policy dialogue around service integration is therefore required. Donors should also consider the role of different study designs on organisation of care. The desire for 'strong' evidence usually leans towards requests or funding for RCTs, as was the case with Integra, while more realist evaluations such as this are considered to lack the external validity required for policy lessons to be learned. A greater consideration of the value of understanding the causal mechanisms through which patterns of service organisation operate should be recommended to those funding research in LMICs.

10.5 Further research

This study has brought to attention a range of interesting study questions that could be investigated through further research.

10.5.1 Research using study data

Condom consistency: Logistic regression analysis could be used to investigate determinants of consistent condom use and further analysis could examine patterns in inconsistencies between the two measures of condom consistency used.

Other SRH services: Crude and adjusted analyses could be conducted on access to and use of other SRH services, which did not form a focus of this thesis including use of cervical cancer screening, STI and PMTCT services.

Cost-effectiveness: Data collected by Integra economists will allow a cost-effectiveness analysis of the four case study clinics. A systematic review on cost-effectiveness of service integration conducted as part of Integra research did find integration of HIV care with general health or TB services was cost-effective, although none of the studies identified compared efficiency of physical integration vs referral (Sweeney et al., 2011). Outcomes data from this study can be combined with detailed costing data collected through Integra.

10.5.2 Other related research

Longitudinal research on contraceptive use in PLWH: This study has suggested that PLWH are changing contraceptive practices across their illness and treatment continuum. A cross-sectional approach precludes a robust investigation of these temporal trends. Further longitudinal research, for example through sero-surveillance sites (where data on contraceptive use and HIV status are captured over many years) could examine changes in contraceptive use and sexual behaviour following HIV testing, in the pre-ART period, across changes in health and illness, and across a period of ART initiation and stabilisation on treatment. This could be coupled with qualitative research to explore the reasons for contraceptive switching, including further research on the role of HIV providers in encouraging changes in these practices.

Satisfaction in HIV programmes: Given important rates of treatment defaulting in sub-Saharan HIV programmes, examining patient satisfaction with HCTx services remains an understudied area (Campbell et al., 2010). Most research on ART adherence focuses almost exclusively within the user system, and few studies explore the role of services in promoting adherence. Further work on the development of validated measures of satisfaction around PLWH in sub-Saharan

African would be particularly useful, since existing scales (including the one used in this study) have either not been validated, or those that were have been developed in high-income contexts. Discrete choice experiments have been applied in other parts of the Integra study and are particularly useful at examining the relative importance of different dimensions of health care (Pitchforth et al., 2008), and could be used to further examine the relative importance of integrated care dimensions compared to other aspects of care for PLWH.

Stigma: Statistical scaling techniques could be used to validate the measurement of the stigma experienced in clinics. The stigma measure used in the adjusted analysis was derived from only one aspect of potential stigmatization. Using a factor analysis approach could help to define and measure the different dimensions of the concept (Including both felt and enacted stigma), but unfortunately it was beyond the scope of this study for this thesis.

Methodological work on integration: Defining integration is challenging. In the majority of integration research studies, integration is said to have occurred (and studied as such) if either an intervention has taken place (e.g. training, use of job aids to promote multiple services), or services are said to have been (re)organised in an integrated way. Outcomes are subsequently studied across multiple clinics according to those models (intervention and control, or pre-/post-test). However, as noted in Chapter 2, experimental integration studies also tend to demonstrate ongoing shortcomings in desired health care processes following implementation of an intervention (e.g. shortcomings in provider knowledge and skills) and many authors remain reluctant to apportion blame for under-achievement in outcomes to the level of integration. Trying to implement a pure organisational intervention in the real-life context of a functional health facility is intrinsically challenging due to the shifting dynamics within clinics. This challenge has been encountered within other components of the Integra study, where the blurring of lines between intervention and control facilities has occurred due to staff movements and rotations, or the introduction of other MoH or NGO initiatives.[48] The Integra study team (including the author) are therefore using detailed data on health care processes in study facilities to develop an 'index score' of integration (i.e. across a continuum), rather than using simplistic intervention and control facilities to determine an extent of service integration, and associations between the score and outcomes. It is hoped that this work may also help in the identification of integration 'tipping points', i.e. at what point and under what circumstances does quality of care decrease as further services are added.

[48] Internal meeting report, Integra, February 2011

Research on unmet needs: Conventional measures of unmet need, such as that used in this study, examine pregnancy and infection risks separately. Using datasets from Integra (community level and service level), it may be feasible to develop a measure of unmet need for dual protection among those at risk of both STIs/HIV and pregnancy, and to estimate prevalence for these needs (in Kenya and/or Swaziland). It may also be useful to undertake further research on the meaning of unintended pregnancy in this region and specifically among PLWH, where fertility desires are transient, and women face important cultural pressures to bear children.

Research on PHC organisation in the sub-Saharan region: While the thesis has shed some light on the way services are organised, important research questions remain. In general, little in-depth research has been conducted on the organisation of primary care in the sub-Saharan region. Further work could examine the causes of and potential mechanisms to overcome the fragmentation of care, including research on team-work and collaboration, on client flow processes and appointment systems, and on strategies to promote continuity of care.

10.6 Dissemination of results

10.6.1 Local and national dissemination in Swaziland

Immediately following the fieldwork, preliminary results were presented back to staff (nurses, doctors, managers) at the four study clinics. The feedback was widely appreciated by clinic staff (in particular those not working in the ART units).

Results were also presented at a national health conference held in Swaziland by the Ministry of Health in 2010. A plenary panel session was organised by Integra, and selected results were presented to many programme managers working in various HIV and SRH programmes nationally.

A summary report was also drafted in January 2011 for the International Center for AIDS Care and Treatment Programs (ICAP) Swaziland office, who were planning on undertaking formative research on SRH situation among PLWH in Swaziland. The report was also shared with MoH representatives.

A further dissemination meeting is planned for November 2011, with representatives from local NGOs, IPPF and the Ministry of Health (SRH and HIV units) as part of broader Integra dissemination activity.

10.6.2 International conferences

Research results have been presented at the following conferences, and abstracts are shown in Appendix 11:

- 6th International Conference on HIV Pathogenesis, Treatment & Prevention (Rome, July 2011)
- 20th World Congress for Sexual Health (Glasgow, June 2011)
- Global Symposium on Health Systems Research (Montreux, November 2010)
- International AIDS Conference (Vienna, July 2010)
- Global Health Symposium, London School of Hygiene &Tropical Medicine (July 2010)

10.6.3 Reports

Research results have been summarised for a preliminary 'baseline' report to be submitted to the Bill & Melinda Gates Foundation (in October 2011). In addition, policy briefs on sub-study components will be prepared for the Integra project (Oct-Dec 2011).

10.6.4 Publications

The following reports related to this thesis have been published:

- Church K, Mayhew SH. Integration of STI and HIV prevention, care, and treatment into family planning services: a review of the literature. *Studies in Family Planning*, 40(3), 171-186, 2009.
- Church K, Lewin S. Delivering integrated HIV services: time for a client-centred approach to meet the sexual and reproductive health needs of people living with HIV? *AIDS,* 24:189–193, 2010.

The following related reports on service integration are accepted for publication or published:

- Church K, Hawkes S, Ormel H, Martin Hilber A, de Koning K. Integrating sexual health services into primary care: an overview of health systems issues and challenges in developing countries. *International Journal of Sexual Health,* 22(3), 2010.
- Church K. Integrating STI Prevention, Care, and Treatment with Other Sexual and Reproductive Health Services, in Gupta S & Kumar B, *Sexually Transmitted Infections (2nd Edition)*, 2011 (forthcoming)
- Smit JA, Church K, Milford C, Harrison AD, Beksinska ME. Key informant perspectives on the policy- and service-level challenges and opportunities for delivering integrated sexual and reproductive health and HIV care in South Africa. Accepted for publication pending minor revisions in BMC Health Services Research.

The following papers are planned for submission in 2011 or 2012:

- The family planning needs and practices among people attending HIV care and treatment services in Swaziland (mixed methods)
- Contextual factors influencing the effectiveness of integration between reproductive health and HIV services in Swaziland (qualitative)
- Client satisfaction with HIV care and treatment services: does the model of care make a difference? (mixed methods)
- The association between service integration and stigma: a mixed methods case study (mixed methods)
- Does SRH-HIV service integration promote uptake of services: a case study from Swaziland (mixed methods)
- Service fragmentation within HIV care: the patterns and consequences (mixed methods)
- The cost effectiveness of integrated SRH-HIV and stand-alone HIV care models in Swaziland (joint paper with Integra economics team)

10.7 Concluding remarks

Understanding *how* integrated care works, or doesn't work, has been critical to this thesis. Given the diversity of models, processes, resources and social influences on health care both within countries and across the sub-Saharan region, this approach has undoubtedly been more useful than simply informing a reader about whether integration worked or not in one given setting. Physically, one health care provider *could* provide a multitude of different service components as long as they are furnished with the right skills, support, time, physical infrastructure, among others. So what is essential, then, is to know the inputs that are required to allow them to achieve such a goal, i.e. the 'context' described in this study, and to try to understand the optimal balance of services to be delivered with given resources. Further research on cost effectiveness will help achieve this aim.

The study has demonstrated that the organisation of care is inherently complex, and there are no hard and fast answers about how it impacts on client outcomes. Health care is essentially a social process, and understanding the social interactions between providers and clients, and amongst teams of providers, has been critical. Given the right support or inputs, providers can have an important influence on clients' access to and use of different health care components, and many clients in turn appreciate this aspect of medical care. However, clients want different things from their health services, and those promoting integrated care models have to ensure that the addition of service components does not have detrimental impacts on waiting times and care quality.

Identifying the diversity and transience of user SRH needs has also been fundamental in the context of HCTx services in Swaziland, and this complexity underlines the importance of supporting providers to help clients carefully balance both infection and pregnancy prevention

risks, no matter what model of care they are attending. While providers have often been criticised in the literature, this study has shown that they are concerned about their clients' SRH needs, and given the right support and resources, would be willing to help address them.

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APPENDICES

Appendix 1. Research objectives, questions & methods

Note: Objective 1 is the literature review

Research questions	Measures/indicators/themes	Methods	Dimension in conceptual framework
Objective 2: To describe the characteristics, populations and structure of the four case study clinics, including the extent of current service integration (CH 5)			
2.1 What are the characteristics of the four clinics?	▪ Characteristics (type of clinic, staffing, client load, fees, management, external support) ▪ Service availability & HIV care processes	▪ Clinic characteristics review	▪ Integration & specialisation ▪ Institutional context ▪ Health systems context
2.2 Who are the users of the four clinics and how do user profiles vary across site?	▪ Age and sex profile of clinic users. ▪ SES and educational profile of clinic users ▪ Client 'type' (including stage of ART treatment) ▪ Family & partnership status	▪ Exit survey	▪ Client profile
2.3 What is the actual model of care at each site (integrated vs stand-alone)?	▪ Physical structure/layout ▪ No. of providers seen and services accessed per visit/on day of survey ▪ Consultation length & waiting times ▪ Referral for care ▪ Client and provider reports on extent of service integration	▪ Clinic characteristics review ▪ Exit survey ▪ Client & provider IDIs ▪ Observations	▪ Integration & specialisation
Objective 3: To investigate the family planning (FP) practices and needs of PLWH attending HCTx in Manzini (CH 6)			
3.1 What is the FP situation and needs of PLWH attending HCTx, and do these vary by clinic?	▪ Contraceptive use ▪ Condom use & dual method use ▪ Fertility intentions ▪ Unintended pregnancy ▪ Unmet needs for FP	▪ Exit survey	▪ SRH needs
3.2 What factors influence clients' use of FP services?	▪ Motivations to use FP ▪ Changing needs over time ▪ Impact of HIV on fertility intentions ▪ Client experiences of FP service delivery at the clinics	▪ Client & provider IDIs	▪ SRH needs ▪ Socio-economic context ▪ Process
Objective 4: To investigate whether integrated care is associated with uptake of SRH services (CH 7)			
4.1 Are clients accessing SRH services, and how are they accessing them?	▪ Use of SRH services since testing positive ▪ Location & timing of SRH care delivery ▪ Client- vs provider-driven integration	▪ Exit survey	▪ Service uptake
4.2 Are there missed opportunities for delivering SRH care to clients in ART?	▪ Clients desiring additional services	▪ Exit survey	▪ Service uptake

Research questions	Measures/indicators/themes	Methods	Dimension in conceptual framework
4.1 Is model of care associated with FP service uptake and unmet needs for family planning?	▪ Use FP services since testing positive (multivariable) ▪ Unmet need for FP (multivariable)	▪ Exit survey (logistic regression modelling)	▪ Service uptake
Objective 5: To investigate whether integrated care is associated with client satisfaction and HIV-related stigma (Ch. 8)			
5.1 Is model of care associated with client satisfaction and service-based stigma?	▪ Client satisfaction scales, including mean aggregate score (multivariable) ▪ Preferences for integration (scales) ▪ Service-based stigma scales, including perceived risk of status disclosure (multivariable)	▪ Exit survey (logistic regression modelling)	▪ Satisfaction ▪ Service-based stigma
5.2 How is satisfaction conceptualised within HIV care and does this relate to service integration or specialisation?	▪ Client perceptions of service experiences	▪ Client IDIs	▪ Satisfaction ▪ Process (quality, interpersonal care, continuity of care, coordination of care, providers)
5.3 How do clients and providers perceive service-related stigma within ART clinics?	▪ Structural impacts on stigma (organisation of services) ▪ Social impacts on stigma (provider attitudes towards PLWH)	▪ Client & provider IDIs	▪ Service-based stigma
Objective 6: To explore the contextual factors that influence the success of service integration in clinics (Ch. 9)			
6.1 What are the contextual factors influencing the capacity of clinics and providers to deliver integrated services?	▪ Individual factors in providers ▪ Inter-personal factors ▪ Infrastructural factors ▪ Institutional factors	▪ Provider IDIs ▪ Client IDIs ▪ Observations	▪ Context

Appendix 2. National Swazi ART guidelines pertaining to SRH

Extracts from National guidelines on SRH for PLWH

SRH area	Swazi Guidelines say:
Women becoming pregnant on ART	Women who are enrolled on ART should be counselled to use contraception reliably to prevent re-infection with other strains of HIV and to allow their bodies to recover adequately. Some women will fall pregnant on ART and the aim of the clinician is to ensure that therapy is not harmful to the mother or her foetus. Women who fall pregnant on NVP can continue with monthly monitoring. • Women on AZT will need monthly check of Haemoglobin. • Women on EFV based regimens need to be counselled about the possible risk of teratogenicity in the first trimester. Women on EFV who present in the early stages of the first trimester should be given NVP instead of EFV Women who present beyond the first trimester can continue with EFY, but need to be adequately counselled about the possibility of congenital abnormalities. It is not an indication for termination of pregnancy. • All the other drugs have been shown to be safe in pregnancy and benefits to the mother outweigh any risks to the baby.
Contraception and ART	Patients need to be counselled on the importance of using **dual method**[49] contraception including both barrier and hormonal contraceptives. Condoms and other reliable barrier methods protect against pregnancy as well as contracting STIs and HIV: They also offer additional protection against pregnancy where drug interactions between ART and hormonal contraceptives may lead to sub-optimal levels of the contraceptives in the blood. From available evidence on drug to drug interactions and blood hormone levels it is safest to recommend injectable medroxyprogesterone acetate depot injection as the hormonal method of choice in patients on ART. This should be used in conjunction with barrier methods such as the condom.
Chronic care: Pre-ART patient follow up	A preART care package […] includes: • On-going supportive counselling on condom use, PMTCT, disclosure to partners, testing of partners and children • Yearly Pap smears and fertility counselling in women on every contact with the health worker.
Chronic care: on ART	No guidance given
Factors influencing the choice of ARV Regimen	Pregnancy or childbearing potential: Avoid EFV and use NVP unless the woman can guarantee use of effective contraception such as hormonal method with barrier methods
STI treatment or cervical cancer screening	No guidance given

Source: National ART and PEP guidelines, 2006 (MoHSW, 2006)

[49] Emphasis in guidelines

Appendix 3. Summary of studies included in literature review

These tables summarise studies of primary research reviewed on the process and outcomes of service integration.

1) SRH into VCT

Author, year	Country	Service integration type	Evaluation type	Service integration results reported
Bradley et al 2009	Ethiopia	FP into VCT	Pre-/post-test survey (follow-up at 18 months after introducing FP services) in 8 facilities (N=2379 & 3374). Interviews with providers; information on facility characteristics collected. Multilevel modelling used to account for clustering in providers and facilities.	Uptake of services, provider perspective, behavioural outcomes
FHI, 2010b	Kenya	FP into VCT	Cluster-randomized post-test design testing effect in 2 treatment and 1 control group. Cross-sectional survey (N=316 women, 216 men) and observations of interactions (N=542). Costing analysis done.	Uptake of services, costs
King et al, 1995	Rwanda	FP into VCT	Longitudinal cohort study of women (N=502) testing in VCT.	Uptake of services, health outcomes
Mark, 2007	Zambia	FP into VCT	RCT with 3 arms; control included referral to FP. Follow-up for 11 months after recruitment (N=251 couples randomised).	Uptake of services, health outcomes
Reynolds et al, 2006	Kenya	FP into VCT	Pre-/post-test in 14 sites (chosen by MoH) representing different types of facilities). Interviews with VCT supervisors, VCT providers and clients. Interviews & observations of interactions (N=329 baseline and 367 endline) (male and female).	Quality, provider perspectives, uptake of services,

2) SRH into HCTx

Author, year	Country	Service integration type	Evaluation type	Service integration results reported
ACQUIRE, 2008	Uganda	FP into HCTx	Performance needs assessment at baseline (no detail given). Evaluation with mixed methods: client survey (N=105), observations (N=30; provider survey (N=37); key informant interviews with program managers (N=6); 3 focus groups with PLHIV, and 3 with providers.	Quality of care, provider perspective, stigma, systems
Adamchak, 2007	Ghana	FP into HCTx	Mixed: methods: survey with female clients (N=368) 3 months after provider training; observations (N=95); IDIs with 6 supervisors..	Provider perspective, stigma, uptake of services
Adamchak, 2010	Ethiopia, Kenya, Rwanda, South Africa, Uganda	FP into VCT & HCTx	Case study design with 102 clinics across 5 countries; interviews with managers (N=111), providers (N=253) and clients (N=1961) using structured questionnaires; structured observations at each clinic including monitoring of provider time use; over 100 key informant IDIs..	Provider perspectives, systems, uptake of services, health outcomes
Bunnell, 2006	Uganda	Sexual behaviour counselling into HCTx	Prospective cohort study (N=926 HIV+ adults)	Behavioural outcomes
Chabikuli, 2009	Nigeria	FP with HCTx	Pre-/post retrospective register review at 40 facilities ; comparison between 6 month period pre-integration, and 9 month period post integration.	Uptake of services (including referral rates), health outcomes
FHI, 2010	Kenya	FP into HCTx	Cohort study with female clients (reinterviewed 10 months later) (n=160); provider interviews (N=51); men's interviews (N=114 at baseline, with separate sample of 158 at follow up)	Provider perspectives, uptake of services, health outcomes

Author, year	Country	Service integration type	Evaluation type	Service integration results reported
Hayford, 2009	Mozambique	FP to WLWH (primarily through PMTCT)	Survey with providers in 53 clinics (closed- and open-ended questions).	Provider perspectives

3) HCTx with PHC

Author, year	Country	Service integration type	Evaluation type	Service integration results reported
Agadjanian & Hayford, 2009	Mozambique	HCTx with PHC (mostly MCH)	Semi structured interviews with nurses and support staff (N=13 nurses, 3 nurse's aids, 4 community activists, and 2 NGO activists)	Satisfaction, provider perspectives, stigma
Chouraya et al., 2010	Swaziland	HCTx with PHC	Descriptive report of integration	Uptake of services
Pfieffer et al., 2010	Mozambique	HCTx with PHC	Descriptive case study using routine data from 23 districts.	Uptake of services, health outcomes, systems
Price et al., 2009	Rwanda	HCTx with PHC	Retrospective observational study using routine data (in 30 facilities) before and after introduction of HCTx (use monthly activity reports; regression analysis of impacts over time. .	Uptake of services
Stein et al., 2009	South Africa	HCTx with PHC	Qualitative study of PALSA-Plus programme; 15 clinics randomized to receive training (others received provincial training only).	Provider perspectives
Stinson et al., 2010	South Africa	HCTx with PHC	Retrospective cohort using clinical records; comparison of HAART initiation across 3 models of care (in 4 clinics)	Uptake of services, behavioural outcomes
Topp et al., 2010	Zambia	HCTx with PHC	Retrospective register review (random file review) at 2 clinics. Also, time in motion study on waiting and consultation times per patient per visit (over two 7 day periods); IDIs with patients (N=32 pre, and N=17 post) and providers (N=28 pre, N=32 post) using semi-structured questionnaires.	Quality, provider perspectives, stigma, uptake of services, systems
Zwarenstein et al., 2011	South Africa	HCTx with PHC	Cluster RCT at 15 clinics (8 intervention, 7 control) (N= 10 136 patients in total). .	Quality, uptake of services

4) STI/HIV into family planning[50] services

Author, year	Country	Service integration type	Evaluation type	Service integration results reported[51]
Abera and Asnake, 2006	Ethiopia	HIV prevention/ control into FP.	Unclear of complete methodology, but use of routine data from 32 hospitals and health centres over 6 months after intervention training providers and improving referral mechanisms.	Provider perspectives, continuity of care, access for PLWH, systems.
Adeokun et al., 2002	Nigeria	STI/HIV prevention into RH	Pre-/post-test of intervention promoting dual protection counselling and female and male condoms (provider training, dual protection counselling protocol, female condom provision, supervision). Mixed methods: structured clinical observations;	Provider perspectives, uptake of services, quality of care, health outcomes.

[50] Note, VCT includes voluntary HIV testing and counselling as well as provider-initiated testing and counselling models

[51] Results reported according to following framework: i) client satisfaction; ii) uptake of services; iii) reach to population groups (men, adolescents, sex workers; iv) STI-/HIV-related stigma; v) quality of care (clinical, interpersonal and coordination of care); vi) systems; vi) provider perspectives; and vi) behavioural, health and social outcomes.

Author, year	Country	Service integration type	Evaluation type	Service integration results reported[51]
			interviews and FGDs with providers and clients.	
Bradley et al., 2008	Ethiopia	VCT into RH	Cross-sectional multivariate analysis of VCT/RH service usage data (retrospective case review) (N=30,257; 16,043 men; 14,214 women) over a 21 month period, taken from VCT clinic log books. Explored associations between service delivery model and outcomes (including HIV testing rates).	Uptake of services, continuity of care, population coverage, health outcomes.
Chege, 2001	Ghana	STI/HIV prevention by FP CHWs	Cross-sectional evaluation of community-based FP programme, using mixed methods (survey with CBD agents (N=301), supervisors (N=27), clinicians (N=20); clinical observations (N=51); FGDs with community members, former agents, and clients.	Uptake of services, continuity of care, population coverage.
Creanga et al., 2007	Ethiopia	Integrated SRH by CHWs	Cross-sectional survey with community-based FP agents (N=340) to analyse the determinants of integrated care provision.	Provider perspectives, uptake of services.
EngenderHealth and UNFPA, 2006	Brazil, Ethiopia and Ukraine	Services for PLWH	Multi-country qualitative study (cross-sectional) using mixed methods (in-depth interviews, FGDs) to study situation facing HIV positive women (including adolescents) to access SRH care. Included male partners, providers and policy influentials in the study.	Client satisfaction, stigma, continuity of care, access for PLWH.
Foreit, 2006	Bolivia, Honduras, India, Senegal	Systematic screening in RH	Evaluation of intervention using screening checklist in clinics. India: controlled pre-/post-test. Bolivia, Honduras, Senegal: pre-/post-test, no controls.	Provider perspectives, uptake of services.
Fullerton et al., 2003	Ghana	STI and post-abortion care (PAC) into FP	Mixed: Post-hoc case/control study using clinic service statistics. Cases (N=24) =facilities where providers trained in STI and PAC. Control (N=19)=sites similar in size, locality and ownership. Structured interviews with providers, managers (N=48) and clients (N=37).	Client satisfaction, provider perspectives, uptake of services, continuity of care, population coverage.
Homan et al., 2006	South Africa	VCT into FP	Controlled pre-/post-test using cost-effectiveness analysis of representative sample of 18 clinics: 6 full service integration, 6 partial, 6 control.	Systems.
IPPF and UNFPA, 2004	India, Rwanda, Ethiopia	VCT into FP/RH	Case studies, with no clear evaluation.	Provider perspectives, population coverage, systems.
IPPF, 2005	Kenya, Rwanda	HCTx into SRH	Descriptive case study of new model using routine monitoring and evaluation data (unclear methodology). Includes on-site model (Kenya) and referral model (Rwanda)	Stigma, uptake of services, access for PLWH, continuity of care, systems.
IPPF, 2003b	Ghana	Integrated youth SRH service.	Descriptive case study using routine monitoring and evaluation (unclear design), of integrated approach (recreation, FP, PAC, pregnancy testing, STI management, HIV prevention).	Population coverage, health outcomes.
IPPF, 2003a	Ethiopia	Integrated SRH services (clinics, outreach, youth centres)	Descriptive case study using routine monitoring and evaluation (unclear design).	Quality of care, continuity of care, population coverage, access for PLWH.
IPPF, 2003c	Sudan	Integrated SRH services	Descriptive case study using routine monitoring and evaluation (unclear design).	Quality of care, population coverage.
Janowitz et al., 2002	Zimbabwe	RTI into RH	Pre-/post-test after training intervention (RTI syndromic management) using mixed methods: clinical observations, provider interviews, time-motion study after retraining (1 week observation).	Systems.
Kaba and Alem, 2006	Ethiopia	VCT into youth RH	Cross-sectional rapid assessment in 5 youth centres using document review, FGDs with clients, IDIs with youth and providers, clinical observations.	Client satisfaction, provider motivation, stigma, uptake of services, population coverage.

Author, year	Country	Service integration type	Evaluation type	Service integration results reported[51]
Lafort et al., 2003b	Côte d'Ivoire	STI into FP	Cross-sectional mixed methods study: serological survey to measure STI prevalence and validity of treatment algorithms (N=358); clinic evaluation (in 13 facilities) using client exit interviews (N=200); direct observations (N=215); monitoring of workload, equipment and supplies; interviews with programme managers and providers.	Quality of care, client satisfaction, provider motivation, uptake of services, continuity of care, systems.
Liambilla et al., 2008	Kenya	VCT into FP	Pre-/post-test using mixed methods: clinical observations (N=554 baseline, 530 endline), client exit survey (N=552 at baseline, 530 endline), FGDs with providers, costing analysis, health facility assessment.	Quality of care, client satisfaction, provider motivation, health outcomes, systems.
Maggwa et al., 1999	Zimbabwe	STI/VCT into FP	Cross-sectional (baseline) mixed methods study to evaluate RTI management. Using checklists and observations; routine monitoring; collection of RTI specimens; behavioural risk assessment checklist; cost-effectiveness analysis of RTI service provision. Questionnaire to providers (N=14) and clients (N=154).	Client satisfaction, provider motivation, uptake of services, systems.
Maharaj and Cleland, 2005	South Africa	STI/VCT into FP/MCH	Cross-sectional mixed methods study in 8 government facilities: 4 rural, 4 urban. Mixed methods: inventory, key informant interviews with senior staff, FGDs with providers, semi-structured interviews with staff (N=40), exit interviews with clients (N=300; 100 with FP clients, 100 with MCH clients, 100 with STI clients).	Quality of care, client satisfaction, provider perspective, stigma, uptake of services, continuity of care, health outcomes, systems.
Mayhew, 2000	Ghana	STI into FP/MCH	Cross-sectional policy analysis using mixed methods: documentary analysis, key-informant and semi-structured interviews with staff in 27 facilities in 6 districts (N=94); interviews and informal conversations with 37 community members. 5 FGDs in 2 villages (2 male, 3 female).	Quality of care, provider perspective, stigma, continuity of care, systems.
Mayhew et al., 2000	Ghana, Kenya, South Africa, Zambia	STI/VCT into FP/MCH	Cross-sectional comparative multi-country policy analysis using mixed methods: document review, semi-structured interviews with officials, structured survey of 20 health facilities from 1 region or province in each country, data from situation analysis surveys (nationally representative sample of health facilities).	Quality of care, systems.
Mphuru et al., 2006	Tanzania	VCT into RH	Unclear design, only routine data collected.	Stigma, population coverage, access for PLWH.
Mullick et al., 2008	South Africa	VCT and HIV/STI prevention into FP	Controlled pre/post-test. Phase I: 6 'high-level' integrated (full service integration), 6 'low-level' (referral model) and 6 control clinics. Phase II: 6 best model and 6 control. Mixed methods: questionnaire with clients (N=369), clinical observations (pre=374, post N=366). Both intervention groups were standardized and strengthened using a counselling algorithm and job-aid.	Quality of care, uptake of services, continuity of care, behavioural outcomes.
Ndhlovu et al., 2003	South Africa	STI/HIV into FP/MCH	Cross-sectional mixed methods study: clinic observations, interviews with providers, exit interviews with clients, clinical observations.	Quality of care, client satisfaction, uptake of services, systems.
Odeh et al., 2005	Zimbabwe	HIV prevention into FP/CBD services	Controlled pre-/post-test of intervention with CBD workers, with unclear methodology (routine statistics used).	Uptake of services, continuity of care, health outcomes.
Oliff et al., 2003	Tanzania	Integration of RH services	Cross-sectional policy analysis to evaluate implementation of integrated RH services. Mixed methods: document review, interviews with stakeholders (N=52); FGDs with regional and district stakeholders.	Quality of care, provider perspective, systems.
Population Council, 1999	Botswana, Ghana, Kenya, Tanzania, Zambia, Zimbabwe	STI/HIV into FP/MCH	Cross-sectional operations research (compilation) using mixed methods: inventory, provider and client interviews and surveys, clinical observations.	Quality of care, client satisfaction, provider motivation, uptake of services.

Author, year	Country	Service integration type	Evaluation type	Service integration results reported[51]
Shittu et al., 2002	Nigeria	Integrating FP and RH services	Unclear design: case study with routine data from one hospital where innovative holistic service delivery model used.	Uptake of services, population coverage.
Solo et al., 1999	Kenya	STI into FP/MCH	Cross-sectional study using mixed methods to evaluate syndromic management: routine data analysis, document review, IDIs with management team, situation analysis, FGDs.	Client satisfaction, provider perspective, health outcomes.
WHO et al., 2008	Kenya	VCT and ART into SRH service	Unclear design: case study report of experience with new model.	Stigma, uptake of services, population coverage, systems.

Appendix 4. HIV Provider in-depth interview guide

INTERVIEWER: _____

PARTICIPANT ID NUMBER: _____

Clinic (check):

KSII ☐
LaMvelase ☐
RFM/HIV Unit ☐
FLAS/Manzini ☐

DATE OF INTERVIEW (dd-mm-yy): ☐☐-☐☐-**2009**

TIME STARTED (hh-mm): ☐☐:☐☐

TIME ENDED: ☐☐:☐☐

Informed consent sought: Y N

A. Background information			
No.	**Questions and filters**	**Coding categories**	
1	Sex	Male Female	0 1
2	What is your date of birth	☐☐:☐☐:19☐☐ D D M M Y Y	1
3	What is your current position in this health service?	Nurse Doctor Counsellor Manager Other (specify)_____	1 2 3 4 5
4	Are you specialist in any area of HIV or sexual and reproductive health care? If so, which? (can circle more than one)	Not specialist (generalist) HIV services (all) HIV testing and counselling Pre ART care ART Adherence counselling	1 2 3 4 5 6

		PMTCT HIV prevention/behaviour change Male circumcision Family planning Family planning for women with HIV Antenatal care Postnatal care STI diagnosis and management TB screening and management Cervical cancer screening Other: (specify): _____	7 8 9 10 11 12 13 14 15 16 17	
5	How long have you been working here?	_____ Years/months		
6	Have you worked anywhere else? (specify where)			
			Last yr	Last 1-3 yrs
8	Have you received any in-service training in the following areas in: a) the last one year b) the last 1-3 years? Read out and circle - multiple responses	HIV testing and counselling Pre ART care ART Adherence counselling PMTCT HIV prevention/behaviour change Male circumcision Family planning Family planning for women with HIV Antenatal care Postnatal care STI diagnosis and management TB screening and management Cervical cancer screening	A B C D E F G H I J K L M N	A B C D E F G H I J K L M N

Note: *This topic guides are semi-structured guides and therefore are indicative of the topic areas to be covered. The guide consists of open-ended questions and will not be followed rigidly. It should not be seen as a structured questionnaire.*

Opening	☐
• Please tell me what you understand by the integration of services, and specifically how you feel about integration between HIV programmes and sexual and reproductive healthcare?	
Services offered and specialisation	☐
• What specific type of healthcare do you provide? Have you always had this focus? • How did you start working in this area? • Do you consider yourself a generalist or a specialist? Why? What influenced your career choices?	
Attitudes towards integration	☐
• Have you heard of the concept of integrating sexual and reproductive health care with HIV care? • What does integrated care mean to you? How do you feel about providing integrated care? • Do you feel you have enough training to provide a range of HIV and SRH care? • Which services do you feel you require more training in?	
Integrating HIV care in practice	☐
• Do you integrate care SRH care with HIV care? If so, how is this done? If not, why is this not done? • Are clients able to get all their SRH and other health needs addressed in this facility? *(Probe: fragmentation; need for referrals)* • Do you think care should be integrated at the 'provider' level, or at the 'facility' level? • Do you feel this is an important component of your service? *(integrated only)* • At what point do you discuss SRH issues with clients? (when is FP raised? Sexual health?) • Do you feel that many of your HIV clients have a need for SRH care? What kind of needs? *(Probe family planning, STIs, cervical cancer screening,* • What about patients who are very sick? Do you recommend contraceptive use for them? If so, when? Which methods? (*Probe: low CD4 counts; concerns over drug interactions?)* • What about clients who want to become pregnant? Do you feel PLWH should be sexually active? Or having children? • What happens to those who get pregnant? Do they stay in this facility? • Do some have fertility problems? What do you advise? • What about promoting condom use with your clients? Is there a need for 'positive prevention'?	
Benefits and challenges (if not discussed already) (including stigma)	☐
• Do you see some benefits to integrating sexual and reproductive health and HIV care? If so, what kinds? *(probes: meeting clients needs/satisfaction, prevention, holism, efficiency, continuity, stigma, reaching men / youth)* • What are some of the challenges?	

(probes: time, waiting times, capacity, guidance / guidelines, patient records, attitudes, support from supervisors, complexity, referrals, loss of specialisation, separate funding/management) • How long do you normally spend with each client? How could you increase the number of services offered. • Do you feel there is a high staff turnover? If so, what implications for developing new skills and the knowledge base? • Is there any resistance to integration among staff?	
Relationships with clients and stigma	
• Do you develop relationships with your patients? (continuity of care) How are you able to monitor their changing SRH and other health needs? • Do you feel comfortable providing services to PLWH? • How do you think other SRH clients feel about this service offering HIV services? *(where applicable)* • Do you feel your clients want integrated care? • Do they request or demand it? Or do you need to push to cover more health care topics? • Are they usually in a hurry to leave? • Do they have to pay more to receive more component services?	
Other healthcare needs	☐
• Do you think that clients have any other health care needs that are not being addressed through your services? • What kind of issues do you feel unable or not confident to address? How do you deal with this?	
INTERVIEWERS OBSERVATION Comments about the respondent/s: Comments on specific questions:	

Appendix 5. Client In-depth interview topic guides

1) INTERVIEW ROUND I: ART Initiation

INTERVIEWER: _____

PARTICIPANT ID NUMBER: _____

Clinic (check):

KSII ☐
LaMvelase ☐
RFM/HIV Unit ☐
FLAS/Manzini ☐

DATE OF INTERVIEW (dd-mm-yy): ☐☐-☐☐-**20**☐☐

TIME STARTED (hh-mm): ☐☐:☐☐

TIME ENDED: ☐☐:☐☐

Note: *This topic guides are semi-structured guides and therefore are indicative of the topic areas to be covered. The guide consists of open-ended questions and will not be followed rigidly. It should not be seen as a structured questionnaire.*

Informed consent sought (tick): ☐

A. Background information

No.	Questions and filters	Coding categories	
1	Sex Bulili	Male Female	0 1
2	What is your date of birth	☐☐:☐☐:19☐☐ D D M M Y Y	1
3	What is your current marital status?	Single Married monogamous Married polygamous Has boyfriend / girlfriend who lives elsewhere Living with a partner Divorced / separated / widowed	1 2 3 4 5 6
4	What is the highest level of school you attended? (or are still attending if at school)	None Primary (no certificate / incomplete) Primary (certificate / complete) Secondary (no certificate / incomplete) Secondary (certificate / complete) College / tertiary (no certificate / incomplete) College / tertiary (certificate / complete)	1 2 3 4 5 6 7

No.	Questions and filters	Coding categories	
5	How would you describe your present employment situation?	Unemployed, looking for work	1
		Unemployed, not looking for work	2
		Work in informal sector, not looking for permanent work	3
		Sick / disabled and unable to work	4
		Student	5
		Self-employed - full time (40 hours or more per week)	6
		Self-employed - part time (less than 40 hours per week)	7
		Employed part time (if none of the above) (less than 40 hours per week)	8
		Employed full time (40 hours or more per week)	9
		Other specify)_____	10
6	Do you have enough money to meet your basic needs for food? Read responses	Not at all	1
		A little	2
		Mostly	3
		Completely	4
7	How often do you eat meat in your household? Read responses	Never (can't afford to)	1
		A few times a month	2
		A few times a week	3
		Every day	4
		Other specify)_____	5
8	What is your household's MAIN source of drinking water?	River / dam	1
		Well	2
		Public tap	3
		Tap in compound	4
		Tap in house (piped into house)	5
		Other (specify)_____	6
9	What is your average monthly household income (including any remittances)? *Show respondent categories*	< 500 Em / month	1
		500 – 1000 Em / month	2
		1000 – 3000 Em / month	3
		3000 – 5000 Em / month	4
		5000 – 10,000 Em / month	5
		10,000 + Em / month	6
10	How long ago did you test positive for HIV?	Write date: ☐☐:☐☐:19 ☐☐	
11	Where did you get your HIV test?	This clinic	1
		Another clinic (specify): _____	2
12	Is this the first time you have started ART?	Yes	1
		No	2
13	Have you attended any other clinics for either pre ART or ART care? **If yes, where?**	Yes (specify):_____	1
		No	2
14	Do you know your CD4 count, if so, would you mind telling me what it is?	Doesn't know	1
		CD4 level_____	2

No.	Questions and filters	Coding categories	
15	How many children do you have?	Write number:_____	
16	How old is your youngest child?	Write age: _____	
17	**Women only:** Are you currently pregnant?	Yes No	1 2

B. Round 1 Topic guide

The topic guide is comprised of 4 main parts. Each part has a series of opening questions and probes for each part. Try to make sure that each part is explored in-depth, using the different probes.

Remind interviewee:
"As you might remember from our discussion earlier/last week, we are studying different ways of providing HIV care and treatment in Manzini, and specifically their integration with sexual and reproductive health services. By that I mean family planning, pregnancy services, sexual health counselling, and other such services. I want to remind you that we are not doctors or nurses, and don't work for the health services. We are conducting research to help them improve the services.

We are very interested in your opinions; everything you say is very interesting for us. I don't want to talk much; I want you to talk freely as much as you want. There are no 'good' or 'bad' answers."

☐ **Part 1a: Today's visit** **Opener: "So to start off, please can you tell me about your visit today and what happened"**
☐ Experiences today: different nurses/doctors seen, topics discussed, care given
☐ If not mentioned: did any nurse/doctor say anything today about pregnancy, or family planning?
☐ Feelings about the group counselling? Able to ask questions?
☐ Feelings about the care they received, support received/support would have liked today
☐ Response of nurses and doctors to his/her problems? Time to ask questions?
☐ Reasons for using/choosing this clinic (own choice, cost, distance, friends recommended, quality of care, privacy, access to other services?)
☐ Knows other clinics offering HIV treatment in Manzini?
☐ Client feels comfortable in the clinic? Is there privacy? Feelings of embarrassment or shame? Feelings in the waiting room?
☐ **Part 1b: Recent HIV service use** **Opener: "And what about your experiences with clinics before today? Please can you tell me about your use of HIV and other health services over the past few months or years"**
☐ Contact with health services after testing positive (process of ART enrolment, adherence counselling, CD4 tests, other problems)
☐ Numbers of clinics used, shopping around, reasons for switching, different providers seen for different things?
☐ How does this clinic compare to other clinics?
☐ Advice given by nurses/doctors after testing positive (nutrition advice, condom use, FP advice, drugs

to fight infections (co-trimoxazole prophylaxis))

- ☐ First time spending a lot of time in clinics? Feelings about that? Changed opinions?
- ☐ Feelings about talking to the doctor/nurse (trust); knows the nurse/doctor; sees many different ones?
- ☐ Response of nurses and doctors to his/her problems? Time to ask questions?
- ☐ Things done well? Things do they do badly?

☐ **Part 1c: Recent HIV and MCH service use (PREGNANT WOMEN/RECENT PREGNANCY ONLY)**

Opener: "Please can you tell me about use of health services during your pregnancy, or other health services over the past few months?"

- ☐ Tested positive during pregnancy?
- ☐ Recent contacts with health services
- ☐ Numbers of clinics used, shopping around, reasons for switching, different providers seen for different things?
- ☐ Comfortable in which clinic?
- ☐ Feelings about care received during pregnancy?
- ☐ Special advice given for PLWH?
- ☐ Provider advice on care after the birth?
- ☐ Best place to go for pregnancy care? Why?
- ☐ Feelings about pregnancy and family with HIV status? (happiness, shame, fear of telling providers?)
- ☐ Feelings about talking to the doctor/nurse (trust); knows the nurse/doctor; sees many different ones?
- ☐ Response of nurses and doctors to his/her problems? Time to ask questions?
- ☐ Things done well? Things do they do badly?

☐ **Part 2: Family size, contraceptive use and family planning services**

Opener: "For some people, testing HIV positive can change the way they think about pregnancy or the way they plan their families. Do you feel that HIV has made you think about your family and your desires to have more children, and if so, how?"

- ☐ Impact of HIV status on desires for children, desired family size
- ☐ Feelings about pregnancy
- ☐ Concerns about getting pregnant?
- ☐ Importance of having children? Fear of infecting the infant?
- ☐ Effect of HIV illness on need for FP? Feelings about FP?
- ☐ Feelings about HIV positive people having children? What does community think? What do others think?
- ☐ Attitudes of providers towards pregnancy in HIV?
- ☐ Trying to get pregnant? Concerns with ability to get pregnant (infertility)?
- ☐ Current, past and future FP use?
- ☐ What about past pregnancies? Were they planned? (Why/why not/what happened?)
- ☐ Reasons for using particular contraceptive methods? Knowledge of methods?
- ☐ How does partner(s) feel about family planning?
- ☐ *Ever* discussed FP with nurse/doctor? When? Which clinic? In HIV services?
- ☐ Goes elsewhere for family planning services? Best place to go?

☐ Needs further information / where would she/he go for advice?
☐ **Part 3: Sexual health** **Opener: "Being HIV positive can also cause people to worry about their sexual health. Do you feel that HIV has given you concerns about your sexual health, or affected your desires for sex?"**
☐ Impact of HIV illness on sexual relationships, sexual activity, sexual desires, sexual pleasure (loss of libido?)
☐ Decisions to abstain from sex?
☐ *Ever* discussed sexual health concerns with doctor/nurse? When? Which clinic?
☐ Attitudes of provider towards sexual activity?
☐ Sexual relationships (married or not? Has regular partner?), casual partners?
☐ Has she/he disclosed to partner(s)?
☐ Knowledge of partner's HIV status: Same status? Or different status? How do they manage?
☐ How would they keep themselves or others safe from new infections?
☐ Use of condoms? What did nurses/doctors say about condoms? Where to get them?
☐ Use of condoms *with* another FP method? How does it work for them?
☐ Problems with sexually transmitted infections? Ever been treated? Where?
☐ Received any pelvic/vaginal (f) or genital (m) examination since testing positive? Who gave it?
☐ Ever been given a pap smear? Where? When? (**Women only)**
☐ **If male partner is negative:** male circumcision advised by nurse/doctor? When?
☐ How does he/she feel about discussing these kind of topics? Why?
Part 4: Feelings on integrated services **Opener: "We are interested to know whether you feel that this clinic meets your different health care needs, or what other types of care you would like to receive here. How do you feel about that?"**
☐ Feelings about being in an integrated/specialised clinic
☐ Mention current service structure: how do they feel about it?
☐ Knows about other services available in the clinic? Which?
☐ Other health problems/concerns? Which?
☐ Is availability of other services important?
☐ How would you feel about getting family planning and sexual health services as part of your HIV care? Why?
☐ Been referred to other clinics for problems? Did he/she go? Problems with referral? (lack of money, transport, time?)
☐ How much paid for other services?
☐ Would he/she switch clinics? Where to?
☐ Would you recommend this clinic to a friend? Why/why not?
☐ **Final question: "Finally, if there would be one thing that you could change about the health services, what would it be?"**

FINAL CHECK: *"Is there anything else that you would like to comment on, or ask about?"*

NB: Remind the patient that we would like to interview them again in 2 months time (give exact or approximate date). Ask him/her for contact phone number and contact name to confirm the appointment date and interview date (COMPLETE TRACING SHEET).

2) Round 2 Interview Guide: 2 months after ART initiation

Additional data to collect before starting:

Current CD4 count: _____

Place of residence: _____

Tell client: ***"Thank you for coming back to be interviewed with us again. We would like to follow up our discussion in June/July to find out how you have been, and to discuss your recent visits with the health services. I want to remind you that we are not doctors or nurses, and don't work for the health services. We are conducting research to help them improve the services.***

We are very interested in your opinions; everything you say is very interesting for us. I don't want to talk much; I want you to talk freely as much as you want. There are no 'good' or 'bad' answers. I also want to reemphasise that these interviews are completely confidential and we will not mention your name anywhere in our reports"

Part 1: Health status since last interview **Opener: "Firstly, I'd like to ask you about your health since the last interview, and how you have been managing now that you are on ART"**
☐ Improvements in health? Or any problems with health recently?
☐ Any adverse reactions to the ARVs? Needed to switch regimens?
☐ Good/bad results of any tests?
☐ Any prior conditions that are still troubling you (e.g. TB?)
☐ What support have you had with taking the ARVs?
☐ Disclosure of status: probe on client's situation
☐ **If pregnant:** how is pregnancy going? Any concerns?
☐ **If recently given birth:** how was the birth experience? How is the baby? Probe on feelings.
Other client-specific issues to follow up:
☐ _____
☐ _____
☐ _____
☐ _____
☐ _____
☐ _____
☐ _____
☐ _____
Part 2: Experiences at clinics since last interview **Opener: "Can you tell me about your recent visits to the clinic, what happened, and how you were treated?"**
☐ What happened after ART initiation? How many times did you have to return? For what?
☐ Who did you see on which visits? Your feelings about the different visits?

- ☐ **If pregnant:** are you seeing different providers/clinics for ANC and HIV? How do feel about that?
- ☐ **If recently given birth:** are you seeing different providers for PNC and HIV? How do feel about that?
- ☐ **If recently given birth:** has baby been tested for HIV? By who? Where? What happened?
- ☐ **If recently given birth:** has anyone counselled you on FP?
- ☐ What happened at the most recent visit? Was it a routine refill? Who did you see? What for?
- ☐ RFM only: Do you always get to see a nurse? How do you feel being seen in the waiting room/corridor?
- ☐ Any problems with waiting times? Or being sent away and told to come back?
- ☐ Any problems getting to your appointments? (probe: distance, transport, costs)
- ☐ Your relationship with the doctors and nurses? Is there one/two that you usually see? How do you get on with him/her?
- ☐ Are you able to discuss all problems and concerns with the different doctors and nurses? What kind of things have you discussed with them?
- ☐ Feelings about the way the doctor or nurse treats you? Have your opinions changed over time?
- ☐ Comfort in the clinic: how do you feel in the waiting room (probe on previous feelings, any change?) Do you need to tell the receptionist about the reason for the visit? How do you feel?
- ☐ Have you been referred to any other clinics for other things? What for? What happened?
- ☐ Any other vaginal/genital exams done recently? (pap smears?)

Other client-specific issues to follow up:

_____

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

_____

- ☐ _____
- ☐ _____

Part 3: Relationships, family planning, and sexual behaviour

Opener: "Last time, we talked about your views and opinions on having children, family planning, and your sexual relationships. [HIGHLIGHT CLIENT'S THOUGHTS/FEELINGS] Can you tell me if your situation or feelings have changed in the past couple of months?"

- ☐ Still in same sexual relationships? Or have you changed? How is partner coping with his/her status?
- ☐ Partner's use of HIV clinics (testing, ART, etc.)? Has nurse/doctor helped with partner involvement?
- ☐ Have your feelings about sex changed since starting treatment?
- ☐ Condom use: how are you managing? Consistent use or not? (PROBE A LOT!)
- ☐ Any fears about infecting partner(s)?
- ☐ Have doctors/nurses discussed condoms with you (again)? If problems, do you feel able to

talk about them with doctor/nurse?

☐ Have feelings about having children changed recently?

☐ What about FP use (other methods)? Any changes?

☐ What do you feel is the best FP method for a woman with HIV?

☐ If you wanted to discuss STIs or FP, who would you ask about it? Why him/her?

Other client-specific issues to follow up:

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

_____

_____

Part 4: RFM only

☐ How would you feel if the ART unit was integrated into the main out-patient unit of the hospital, so that there would be no special building for HIV patients?

Finally: ***Is there anything else that you would like to add, or comment on?***

BEFORE LEAVING:

- **Remind client of 3rd interview to be conducted in January 2010 (6 months after they initiated treatment).**
- **Check that the cell phone contact number is still the same.**

Any change in contact no? _____

Clinic mapping during past 3 months:

Visit no.	Clinic/facility visited (including pharmacy/inyanga etc.)	Approx. date of visit	Provider(s) seen (list ALL nurses/doctors/counsellors separately, e.g. nurse doing weighing, counselling, dispensing, etc.)	What seen for?	Total time spent waiting during that one visit	Comments

3) Round 3 Interview Guide: 6 months after ART initiation

Additional data to collect before starting:

Current CD4 count: _____

Date of last CD4 test: _____

Tell client: ***"Thank you for coming back to be interviewed with us again. We would like to follow up our discussion in September to find out how you have been, and to discuss your recent visits with the health services. I want to remind you that we are not doctors or nurses, and don't work for the health services. We are conducting research to help them improve the services.***

We are very interested in your opinions; everything you say is very interesting for us. I don't want to talk much; I want you to talk freely as much as you want. There are no 'good' or 'bad' answers. I also want to reemphasise that these interviews are completely confidential and we will not mention your name anywhere in our reports"

Part 1: Health status since last interview **Opener: "Firstly, I'd like to ask you about your health since the last interview, and how you have been managing with the ARVs"**
☐ Improvements in health? Or any problems with health recently? How is the CD4 count these days?
☐ Any problems with the ARVs? Needed to switch regimens? (Check if already switched)
☐ Any problems taking the pills or getting to the clinic for refills? (probe on defaulting)
☐ Good/bad results of any tests?
☐ Any prior conditions that are still troubling you (e.g. TB?)
☐ What support have you had with taking the ARVs? Any problems with taking the drugs every day?
☐ Any other problems with your health recently that you would like to talk about?
☐ Disclosure of status to others: probe on client's situation
Other client-specific issues to follow up:
☐ _____
☐ _____
☐ _____
☐ _____
☐ _____
☐ _____

Part 2: Experiences at clinics since last interview

Opener: "Can you tell me about your experience in the clinic over the past few months. Please tell me about any good or bad experiences?"

- ☐ Are you still attending the same clinic? If not, probe on reasons for switching.
- ☐ How often have you been coming to the clinic in the past months? Have you been coming for routine refills, or for other reasons? (What reasons?)
- ☐ How do you find the clinic overall these days? Have there been any changes at the clinic over the past few months?
- ☐ Do you find that your experience at the clinic varies? Is it always good/bad, or does it depend? Why do you think that is?
- ☐ Last time you felt the doctors and nurses _____ (insert summary of clinic opinion). How do you feel now about the way the doctor and nurses treat you? Have your opinions changed over time?
- ☐ How is your relationship these days with the doctors and nurses? Do they recognise you? Or do the staff change a lot? How do you feel about that?
- ☐ When was your last visit? What happened at that visit? Was it a routine refill? Who did you see? What for? Probe for positive/negative experiences?
- ☐ Has anything else happened at the clinic over the past months that you would like to talk about?
- ☐ Do you discuss any problems and concerns with the doctors and nurses? What kind of things have you discussed with them recently? If you don't discuss much, are there issues you would like to discuss? What kind of issues? Why did you not discuss them?
- ☐ Any problems getting to your appointments? (probe: distance, transport, costs)
- ☐ We've noticed that clients often see several providers in one clinic visit; how do you feel about that?
- ☐ Last time you said you felt comfortable/uncomfortable (delete) in the clinic waiting room: how do you feel these days?
- ☐ Do you talk to other HIV patients at the clinic? What kinds of things do you talk about? Is this helpful for you? (probe on previous feelings, any change?)
- ☐ Have you been referred to any other clinics for other things in the past few months? What for? What happened? Did you get to your referral appointment? How did you feel in another clinic?
- ☐ Would you ever think about switching clinics? What would make you switch? Where would you move to?

Other client-specific issues to follow up:

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

Part 3: Relationships, family planning, and sexual behaviour

Opener: "Last time, we talked about your views and opinions on having children, family planning, and your sexual relationships. [HIGHLIGHT CLIENT'S THOUGHTS/FEELINGS] Can you tell me if your situation or feelings have changed in the past couple of months?"

- ☐ Still in same sexual relationships? Or have you changed?
- ☐ How is partner coping with your status? And his/her status?
- ☐ Partner's use of HIV clinics (testing, ART, etc.)? Has nurse/doctor helped with partner involvement?
- ☐ Have your feelings about sex changed in recent months? Why/how?
- ☐ Condom use: how are you managing? Consistent use or not?
- ☐ Any fears about infecting partner(s)?
- ☐ Have doctors/nurses discussed condoms with you (again)? If problems, do you feel able to talk about them with doctor/nurse?
- ☐ Have feelings about having children changed recently?
- ☐ What about FP use (other methods)? Any changes?
- ☐ Do you talk to your partner about planning a family, or using contraception? If not, why not? If yes, what kind of things do you discuss?
- ☐ How do you feel about family planning in general?
- ☐ What have you heard about different family planning methods?
- ☐ Any problems with sexual health? (probe on worries about STIs, problems with STIs – discharge etc.) If concerns, have you discussed these with a provider?
- ☐ **If not asked last time:** where do you or would you go for advice on FP and sexual health and STIs? Why there? If client goes elsewhere: do you disclose your HIV status to that other provider? How is that?

Other client-specific issues to follow up:

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

Part 4: Closing

- ☐ What are the top 3 recommendations you have for improving your HIV clinic?
- ☐ What are the top 3 recommendations you have for improving the situation for people living with HIV in Swaziland?
- ☐ Finally: Is there anything else that you would like to add, or comment on?

Appendix 6. Example of qualitative data thematic analysis matrix

Extract from provider data, CONTEXT MATRIX[52]

Case	Individual level factors (in provider)	Inter-personal factors	Institutional (link to current process matrix)	Infrastructure
0202[53]	**Skills:** He already had training in SRH issues, and could train the other staff members in it. BUT lacks skills in counseling and wants more training in that area (CF 0302 doctor)		**CLINIC A not ideal for men (link below):** Men are unlikely to want to use CLINIC A since it is an SRH clinic, and they won't want to be seen there. *I think there are institutions like CLINIC A who are, who have been said to be sexual reproductive health, I think they wouldn't attract as many men as we would as an ART clinic, even if they're offering ART, it's now like, ART is a subsidiary of sexual reproductive heatlh, I bet as a man I can attest that you will see few men there, they don't want to be seen dealing with family planning,* **Families oriented:** Clients bring children and spouses to the clinic. *we've got a lot of families, as in people who come with their spouses and even children* **Male involvement:** Being HIV focused allows them to attract more men. **Clinic D focused on ART:** They are focused on ART and there are other organizations more appropriate for delivering SRH services. There is still a huge challenge in Swaziland to scale up ART. *and the demand is still very high. So, looking at the fact that, in terms of family planning and sexual and reproductive health there are other institutions that provide, so, especially our organisation, non-governmental organisation is really being concerned with ART. Ja. According to 2007 survey, um, the results only came last year 2008, the provision of ART wasn't even at 50 percent in terms of people that needed.* ***I: In Swaziland?*** *In Swaziland, in Swaziland. And er, looking at that, and now that people are now well they are suggesting that we try to start people at 350, the demand is going to be high. […] so, my organisation has been looking at it, from that point, that ja, let's probably rush in and try and save lives, so, these*	**Equipment/supplies:** Need to get supplies and equipment in order to deliver FP. **Client load:** They had to limit taking pre ART clients due to the numbers (only those below 350). Don't have time to talk about factors such as sexual health *I: Do a lot of your patients have concerns about sexuality and their sexual health?* *R: Right now, we don't have time for that, we talk about adherence counselling for ART. […]a lot of patients they do come with that problem of low libido, and they've got a lot of questions concerning, surrounding HIV and sexuality and…We do sometimes answer some of the questions, but most of the time we don't have time 'cause the counselling that we give it's mostly concerned with adherence and treatment.* *I mean we are basically treating the people of the reproductive age groups, the sexually active, they definitely need access to family planning, that's one thing, they need access to treatment of STIs, sexually transmitted infections, and counselling about all those conditions, they all need that, but we don't have time to provide that,* *I: Do a lot of your patients have concerns about sexuality and their sexual health?* *R: Right now, we don't have time for that, we talk about adherence counselling for ART. Whatever they do concerning their sexual and reproductive health, it can just be mentioned in passing. But there is no concrete information that is passed on to the patient,* **Space:** Is the main challenge *we don't have space to [integrate], we are actually being overwhelmed by the response to the ART.* Don't have space to even integrate TB facilities (which is the priority) *It's all about space, you know I've got this dream of a of of an ART centre or an HIV centre that would probably have it's own radiograph and x-ray machine and be able to even process sputums and do stains, gram stains, not gram stains, acid stains for TB, even doing um…things like that, 'cause there are a lot of stuff which has nodes and everything and even tissues, thing that would really benefit from just screening for TB.*

[52] Note, yellow highlights means LINK to another section of the data.
[53] Note, 02 codes indicates Clinic D, 03 codes indicates Clinic C (clinic codes were number sequentially based on order of data collection)

Case	Individual level factors (in provider)	Inter-personal factors	Institutional (link to current process matrix)	Infrastructure
			people will always seek family planning and sexual and reproductive health in other institutions	
0203	**Skills:** Enjoys the job doing HIV all day, but feels she would like to get training in other areas. Lacks training on STIs. *I would like to, to keep on also even up-to-date knowledge of other areas. Like if I can attend other workshops, maybe STI, to know what's happening with STIs now, which, maybe there are new things I don't know. Maybe there are new ways of treating gonorrhoea I don't know, maybe if there's a way of also going for other training, not necessarily, not necessarily HIV only* Providers should be trained in all aspects including TB and VCT. (but doesn't mention SRH issues) **Motivation:** Would be nice to being doing other things as well (cf above), which is what she did at a previous clinic; fears loss of **skills.** *when I was in [rural hospital], we were not solely working for HIV only, we would do ANC, we would do family planning, we would do immunizations. Here maybe it is a bit different because we are a, only, it's a clinic which does HIV only, there's no other area where they can say – "come and help here," maybe if it was like that, maybe it would be better because I can maybe today help with ANC, maybe tomorrow I can go and help in the ward, then I won't loose touch*		**Professional development:** weekly professional development meetings at the clinic means they are more focused on client needs. *[the weekly workshop] helps because at least we keep up to date with information, yes, just to remind each other what are we doing, where are we going, is, what are we, what we are doing – is it the right thing, or are there any challenges that we are seeing ,is the flow still going okay* *I: is the what?* *R: the flow of the, the client flow, is it still okay, maybe now we are making patients sit for a long time, we have to correct, quickly correct. So I think it helps*	**Space/personnel:** They are supposed to be doing pap smears, but they don't because of space and personnel. *2 of the consultation rooms don't have beds in them.* *we don't have resources, because even in our flow chart, it's there, that we are supposed to be screening for cervical cancer, but we don't do it because of the space and also personnel* **Lab:** Would like to be able to do sputums in a laboratory (need to train someone). **Client load:** If they integrate SRH they will have a problem with client load because they will be taking too long with each client. *the challenge that we might face is the, is the work load, it might be too much on the service provider, I'm going to be doing VCT, doing counselling, doing family planning, doing cervical cancer screening – then I might be taking a long time with one patient.* **Equipment:** Don't have a bed to do pelvic examination, so just refer to the doctor for STI screening.
0301	**Blaming clients:** Clients blamed for inability to go for referrals, or just not complying with provider advice *We tell them, you should go for family planning – they don't go. You tell them use condoms – they don't use condoms.* **Motivation:** lack control over which areas they work in. Was rotated in to the unit and there was no conscious decision to work in HIV: "I just found my self here", and does find it challenging. **Skills:** They also need training in FP, not just the MCH unit. *I think we also need the training, ja, because really, those guys in MCH, they are the ones who get trained about this family planning one, so, whereas we also meet these women who need this family planning and I think it might help to have workshops on family planning as well* Her HIV training was on the job training, trained by co-workers. Clients needing advice on pregnancy are sent away to the doctor (see right).	**Rx with doctor:** We send clients away to the doctor for advice on pregnancy in HIV. Also if there is concern about infertility they send them to the doctor. *they do ask us for advice [on pregnancy], so usually anyway send them to the doctor and then he, maybe he will either refer them to the gynaecologist, ja to maybe check if everything is okay.* **Sympathy for drugs payments:** Sympathetic or empahtic to clients who are made to go to town to buy tests or kits etc *"I don't feel good, okay?"*	**Routine:** We mind when they come on the wrong day *I: do you, do you mind if she comes here on the day she's not meant to come here?* *R: okay, we mind because our refill days are 2, so on other days we are doing other things, you see – we mind, but you end up refilling for her at the end of the day* **Rotation patterns:** can influence loss of quality as staff constantly rotated around. Means people have to keep being trained all the time, but he does not want to stay in one place either (need initial rotation for a few years, and then choose where to stay) *it impacts because if like maybe I'm trained today on ART, tomorrow I'm in another place, a new person is here, then you know we keep on, maybe the services won't be that good, you know, mmm, we have to keep on training every person all the time, so …* then *I think maybe you should rotate maybe in the first few years ja, then maybe like you choose where you like best and stay there*	**Fees:** Clients must pay for surgical procedures in the hospital. Also pay for pregnancy tests (in the lab); clients 'reluctant'. **Space:** Lack of consultation rooms has strong impact on privacy. They are only able to see sick patients in the consultation rooms. *I; do you think they are happy to just come, get their pills and go, or do you think some of them would actually prefer to see you, here, in private?* *R: okay like those who want to see us in private, they say* *I: they do?* *R: mmm, but the thing is the rooms are not enough, so at times when you have to do everything [in the corridor], unless you ask someone to give you space, then attend to the patient also. Unless they are sick, if they are sick we come with them into the rooms, but if they've come just for the refill, so we just see them there* **Staffing:** Don't have time to spend with clients. Say they usually spend 10 mins with each client. Staffing is the main challenge. *the bad things is the patients are so many and we are few so we tend to feel it, okay, if there are just too many, we don't manage very well like, to be, maybe like to attend the patient maybe for a long time maybe.* **Drugs:** Don't have all drugs available at the hospital; clients have to go into town to get drugs like anti-emetics; creams; very expensive for clients. Some don't buy them as they can't afford them. Clients have to rely on donations.
0303	**Motivation:** Due to humanitarian reasons was motivated to work in HIV; now even doing a course on HIV managmenet to further skills. Seen as responding	**Team work important:** Because they are in different units in the hospital. If they are going to send patients to the other unit they have to		**Supplies:** Condoms are supposed to be readily available on the consultation tables, but when he tries to show interviewer the box, there are none there.

Case	Individual level factors (in provider)	Inter-personal factors	Institutional (link to current process matrix)	Infrastructure
	to a disaster. **Skills:** Has sufficient training on various different health areas, including family planning, which he is "very good" in. [link PROCESS] All the staff in the FP unit are already trained (implying that should use that capacity). **BUT** advises they to consult doctor if they want advice on getting pregnant	work together. *there's a section in the hospital that handles [FP], yeah, how do you know they may have other things that are involved, such as data collection and things like that, they may want all of them to come there, we don't mind. The only thing is trying to ensure that the patients' care is, you know it's kind of team work, it may take more time, resources, you know, to start bringing it down to this unit, you know we have, 'cause it's the same hospital, it's only a different department, so if we can send them there and there are people ready trained on there, on that, that have been providing the services, yeah, if we can send them there actively I don't mind, it's ok.* Thinks they work well as a team in the unit, as can ask the other doctors about an individual client's treatment or symptoms.		**Space:** the facility is too small even for providing ART; therefore FP is not a primary goal for the unit. Small space also leads to poor ventilation and infection problems. **Communications:** They only have one phone for all the consult rooms, so they can't communicate easily with other hospital units. *this is an intercom, it should be in every clinic room should be there, in case you want to, the patient is in here and you want to find out something from the family planning unit, the patient may come, "they're giving me this, and maybe I'm having this bleeding and I don't…what what what".* **Data systems:** The FP section has its own data systems (see interpersonal) **Client load/time:** They are overloaded and don't always have time (means they only sometimes document the LMP and don't discuss FP (link PROCESS) They are already trying to do many things and can't do more. *I think at the moment there are a lot of things which, which we, we have to involve, which we have, which we have to involve in this facility, so I think [adding FP] will be, it will be an overload for, for the staff, who are, who are, who are here* **Staff:** Need more staff
0304	**Knowledge:** Says FP supplies not available in the FP unit at the hospital (link Infrastructure), including loop, pills, injectables (but in fact they are available) **Motivation:** It is the role of the nurse to be an advocate of SRH issues, to counsel patients. *[FP] has to be discussed, because one of the prerequisites of a nurse or a doctor is to be an advocate, advocate for the clients and work to, we are also educators of clients, so I personally believe that it's something which the doctors and nurses have to, to address the issue* They don't get any break because of problems with systems, like the files – they spend a long time looking for files.	**Rx with doctor:** Clients wanting pregnancy are advised to consult the doctor.	**Linkages:** Integration is about building a link with other services; and also working with other organizations that provide those services. *I: so when you say involving other services or department, what do you mean?* *R: okay it's like when talking about HIV, it's like when you, you can also involve the family planning, even male circumcision, it's a way we are trying to, to control the spread of the HIV, you involve other services* *I: so do you mean sort of discussing it in your consultations, or do you mean building a link between services, or?* *R: yes, it means the, building a link between services, mmm* *I: and how do you feel it is here at CLINIC C?* *R: okay, I think, I think at, in CLINIC C it's quite, it's quite intensive because we also involve other services such as CLINIC A and PSI also, we also work hand in hand with the PSI in terms of controlling the scourge of HIV*	**Equipment supplies:** Weak in the FP unit at the hospital; they don't have all the supplies there. *I don't think it's intensified […], I know that it's a department which deals with family planning but I've never seen it, it's like when we talk about family planning, when you go to the department you, you, you should see the equipment, the family planning services which has a … but if you go here it's like you only see, see the distribution of condoms only […] and the loop is not done here,* **Fees:** Clients at Clinic D have to pay more for xrays and TB tests at the hospital than their own clients. Fees at ART unit are free, but they have to pay for outpatient services which is problematic, so they prefer coming to ART. **Guidelines:** The reason why FP is not being discussed right now is because the guidelines only talk about condom use. ; they need to add something on FP. **Forms:** Client forms for ART don't really mention FP. *they only touch, touch on other service, but they don't go deep into services such as family planning* **Space:** No space for the filing system right now. Patient files can get lost. (link MOTIVATION). Files currently stored in cardboard boxes. *there is no break, no lunch here, mmm, and there's paperwork too, like the lab results which you have to put back to the files, mmm, so the little time that we get, we split ourselves and you've got to file those results because the file, the clients have to find them in their files, when they come back, we've got to actually know what's happening and there are some, like the ones that are coming from the laboratory, you'll find that the results are back and that client is positive TB, you've got to try and find the file, find the thing,*

Appendix 7. HIV Client Exit Interview Questionnaire

Note: questionnaire reformatted for inclusion in thesis

HIV SURVEY EXIT QUESTIONNAIRE
FINAL

Complete informed consent form now

Participant ID number: ☐☐☐☐ [PDA TO PROVIDE AUTOMATICALLY]

Facility code: ☐☐ [01: King Sobhuza 02: LaMvelase 03: RFM 04: FLAS]

Interviewer's code: ☐☐ **Password:** *******

Date of interview (dd/mm/yy): ☐☐-☐☐-☐☐

Time of interview (hh/mm): ☐☐:☐☐

Informed consent sought (check): ☐

No.	Question	Responses	Code	Skip
Section 1: BACKGROUND				
101	Sex of client **Bulili balobutwako**	Male Female	1 2	
102	What is your age? **Mingakhi iminyaka yakho?**	☐☐		
103	What is your current marital status? **Ngabe wendzile / kukhona lohlalisana naye / wehlukana newakakho, nisashayisana umoya kwesikhashana noma washona?** *Tick only one*	Single *(Probe)* Married monogamous Married polygamous Has boyfriend / girlfriend who lives elsewhere Living with a partner Divorced / separated / widowed	1 2 3 4 5 6	
104	What is the highest level of school that you have attained? (or are still attending if at school) **Ngabe wafundza wefika kuliphi libanga esikolweni?** **(Uma usafundza, ngabe ukuliphi libanga?)**	None Primary (no certificate / incomplete) Primary (certificate / complete) Secondary (no certificate / incomplete) Secondary (certificate / complete) College / tertiary (no certificate / incomplete) College / tertiary (certificate / complete)	0 1 2 3 4 5 6	
105	What is your religion? **Ngabe yini inkholo yakho?** *(Probe if they only give name of church and you do not recognise it)*	None Charismatic Protestant Roman Catholic Pentecostal Zionist Apostolic Sect Muslim Other (specify)_____	0 1 2 3 4 5 6 7 88	
106	If you come straight from home, how long does it normally take you get to this clinic? **Uma usuka lapho uhlala khona uta kulomtfolamphilo, kuvame kukutsatsa sikhatsi lesinganani kufika?** *Explain total time is door to door.*	☐☐☐ minutes		
107	How much do you normally pay to get to this clinic? **Uvamise kubhadala malini kusuka ekhaya ute kulomtfolamphilo?** *Insert cost for **one-way trip**. Include petrol cost if use own car. Round up to nearest Emalangeni.*	E ☐☐☐.☐☐ *Round up to nearest emalangeni.*		
108	How would you describe your present employment situation? **Ungachaza utsini ngesimo sakho semsebenti kulesikhatsi samanje?**	Unemployed Employed (full time) Employed (part time)	1 2 3	

No.	Question	Responses	Code	Skip
		Student	4	
		Other (specify)_____	88	
109	What is your average monthly household income (including any remittances)? **Ngabe imali lengena kulelidladla njalo nje ngenyanga ivame kuba ngumalini (lokufaka ekhatsi nemali letfunyelwako uma ikhona)?** *INTERVIEWER: Show respondent categories and get them to point to category which best suits their **household** (remind them that it is income for the household)*	< E500 / month E500 – E999 / month E1000 – E2999 Em / month E3000 – E4999 Em / month E5000 – E9999 Em / month E10,000 + / month	1 2 3 4 5 6	
110	How often do you eat meat in your household? **Ngabe inyama idliwa emahlandla lamangakhi kulelidladla lakakho?** *Read responses*	Never (can't afford to) / ***Asiyidli ngoba iyadula*** A few times a month / ***Tikhatsi letimbalwa enyangeni*** A few times a week / ***Tikhatsi letimbalwa evikini*** Every day / ***Onkhe malanga*** Other (specify) / ***Lokunye*** _____	1 2 3 4 5	
111	What is your household's **MAIN** source of drinking water? **Ngabe NIVAME kuwakha kuphi emanti ekunatsa kulelidladla?** *Tick only one*	River / dam Well Public tap Tap in neighbouring homestead Tap in compound Tap in house (piped into house) Other (specify)_____	1 2 3 4 5 6 88	
Section 2: HIV SERVICE USE				
201	Are you currently taking anti-retrovirals (ARVs) (HIV treatment medicine)? **Ngabe sewucalile yini kusebentisa lamaphilisi ladzindzibalisa ligciwane leHIV? (emaARVs)**	No Yes	0 1	203
202	When did you start taking ARVs? **Ucale nini kunatsa lamaphilisi ekudzindzibalisa ligciwane leHIV? (ARVs)** *If "started" more than once (i.e. had break after first use) then give date first time started. If started today, write today's date.*	☐☐ month ☐☐ year *Enter '88' if month not known*		
203	What was the **main reason** that you came here today? **Ngusiphi <u>sizatfu lesimcoka</u> lesente kutsi ute kulomtfolamphilo lomuhla?**	ART refill ART initiation visit ART user consultation (check-up, CD4 tests, blood tests, problems, etc.) Adherence counselling (group or individual ART-related counselling)	1 2 3 4	

No.	Question	Responses	Code	Skip
	Tick only 1. Check client came for an HIV-related service.	Pre-ART consultation (including CD4 tests, getting 'cotrim', general consult)	5	
		PMTCT counselling	6	
		Other HIV care-related (specify): _____	88	
		HIV test/VCT	98	END
		Other non-HIV services	99	END
204	When did you test positive for HIV? **Watfolakala nini kutsi uneligciwane engatini yakho?**	☐☐ month ☐☐ year		
205	Have you ever had a CD4 test? **Ngabe wawahlola yini emasotja?**	No Yes	0 1	208
206	When was the date of your last CD4 test? **Ugcine ngaliphi lilanga kuhlola emasotja akho engati?** *Ask client to check their ART patient card if not sure*	☐☐ - ☐☐ - ☐☐ D D M M Y Y *Enter '88' if day or month not known*		
207	What is your most recent CD4 count? **Ngalesikhatsi ugcina kuhlola emasotja akho engati ngabe belitsini linani lawo?**	☐☐☐☐ CD4 count not known: *Write '8888'*		
208	Are you currently receiving treatment for TB? **Kulesikhatsi sanyalo ngabe uyelashelwa yini sifo sesifuba sengati?**	No Yes	0 1	210
209	Where are you receiving TB treatment? **Ngabe welashwa kuphi?**	This clinic/hospital	0	
		Another clinic (specify):		
		RFM hospital (Nazarene)	1	
		TB Centre	2	
		TB Hospital	3	
		Mbabane Govt Hospital	4	
		KSII/Sobhuza Clinic	5	
		LaMvelase/AMICAALL	6	
		Chemist/pharmacy (any)	7	
		Herbal clinic	8	
		Traditional healer/Inyanga	9	
		FLAS Manzini	10	
		Good Shepherd Hospital	11	
		Hillside clinic	12	
		LaMvelase clinic (Zombodze)	13	
		Luyengo clinic	14	
		Mankayane	15	
		Manzini clinic	16	
		Mkhulamini clinic	17	
		Hospice at Home	18	
		Private doctor (ANY)	19	

No.	Question	Responses	Code	Skip
		St Theresa's	20	
		Mobile clinic	21	
		Other (specify) _____	88	
210	What date did you first enrol at this clinic? **Ngiphe lilanga, inyanga nemnyaka lowacala ngalo kusebentisa lomtfolamphilo lona?** *Write today's date if first-time user. Write approximate month/year if exact date not know*	☐☐ - ☐☐ - ☐☐ D D M M Y Y *Enter '88' if day or month not known*		
211	Why did you decide to come to this clinic for HIV services? **Ngusiphi sizatfu lesenta kutsi ute kulomtfolamphilo kutotfola lusito mayelana neligciwane leHIV?** *Tick all that apply. Probe if client finds it hard to answer.* *If client responds "tested here", ask why they chose to test here.*	Cost of services Availability of drugs/supplies Possibility to receive other services at the same time Close distance/easy to get to Far distance/confidential Waiting times Opening hours Friendliness of providers Confidentiality & privacy Availability of a doctor Facility is high-tech and modern Facility offers specialised services Referred here by another facility Recommended by friend/family Other (specify) _____ _____	1 2 3 4 5 6 7 8 9 10 11 12 13 14 88	
Section 3: SEXUAL AND REPRODUCTIVE HEALTH SITUATION AND NEEDS				
301	How many living children do you have? **Bangakhi bantfwana bakho bengati labaphilako?** *Biological children only, with any partner. Count even if not living with him/her.*	☐☐ number		If none, skip to 306
302	How old is your youngest child? **Umntfwana wakho wekugcina unangakhi weminiyaka?**	☐☐ months (fill in if less than 1 year) ☐☐ years		
303	Have your children/has your child been tested for HIV? **Ngabe umntfwanakho/bantfwabakho sebake bahlolwa ligciwane leHIV?**	None tested All tested Some tested (if applicable) Don't know	0 1 2 3	306 306
304	Are any of your children/is your child HIV positive? **Ngabe ukhona umntfwanakho/**	No All are HIV positive Some are HIV positive	0 1 2	306

No.	Question	Responses	Code	Skip
	bantfwabakho lophila/labaphila neligciwane leHIV?	Don't know	3	306
305	Where are your children/is your child receiving HIV care? **Ngabe umntfwanakho/ bantfwabakho ulutfolaphi/balutfolaphi lusito mayelana neligciwane leHIV?** *Tick all that apply. For RFM users, only count ART unit as 'this clinic'.*	This clinic (same unit) Another unit/building in the same facility Another clinic/facility Children receiving care at multiple sites Child(ren) not receiving any care Don't know	1 2 3 4 5 6	
306	Did you have any children who died, and if so, how many? **Bakhona yini bantfwana lowabatala lesebashona? Mabakhona, bangakhi?** *Write 0 if no child deaths. Include deaths during childbirth or stillbirths but not miscarriages.*	☐☐ number		
307	Is the child you/your partner last gave birth to still alive? **Ngabe lomntfwana wenu lenigcine ngaye kumtala usaphila yini?**	No Yes Don't know N/A Never had children	0 1 2 98	
308	Have you/has your partner become pregnant since you tested positive? **Ngemuva sekutfolakele kutsi uneligciwane leHIV ngabe kwentekile kutsi wena noma phathina wakho bese uyakhulelwa?** *If she tested positive during a current pregnancy, then enter 'no'.*	No Yes N/A Male with no partner	0 1 99	311 311
309	At the time you/your partner last became pregnant, did you want to become pregnant <u>then</u>, did you want to wait until <u>later</u> or did you <u>not want</u> to have anymore children? **Ngalesikhatsi ukhulelwa lomntfwana lona bese uvele umfuna yini umntfwana noma bowusafise kumayima, noma bowungasafisi nhlobo kutfola lomunye umntfwana?**	Wanted to be pregnant then Wanted to be pregnant later (not at that time) Did not want to have a child Don't know/not sure Other specify: _____	1 2 3 4 88	
310	Did you/your partner receive prevention-of-mother-to-child-transmission (PMTCT) services during your last pregnancy? **Kulokukhulelwa kwakho/kwakhe kwekugcina ngabe wena/phathina wakho uke walutfola yini lusito lolumayelana nekuvikelwa kwemntfwana losesiswini kutsi angalitfoli ligciwane leHIV (i-PMTCT)?** *If currently pregnant, ask about current pregnancy. Explain PMTCT if client not sure.*	No Yes Don't know	0 1 2	

No.	Question	Responses	Code	Skip
311	In the future would you like to have more children? **Bewungafisa yini kuphindze utfole labanye bantfwana esikhatsini lesitako?**	No Yes Not sure N/A Person physically unable to have children	0 1 2 99	313 313
312	How long would you like to wait before you/your partner becomes pregnant (again)? *Write 00 if client trying now. If currently pregnant, ask about spacing AFTER current pregnancy.* **Bewungafisa kuma sikhatsi lesinganani ungakelamisi?**	☐☐ months ☐☐ years *If not sure, enter '99'*		
313	Please can you tell me, what is your desired number of children? **Ngicela kwati kutsi bewufise kuba nebantfwana labangakhi?** *Write total desired family size. If don't want any more, write current number.*	☐☐ Number *If not sure, enter '99'*		
314	Are you/is your partner pregnant now? **Ngabe wena noma phathina wakho ukhulelwe yini nyalo?** *For males, ask only about pregnancy with his own baby, not about someone else's baby..*	No Yes Don't know N/A Male with no partner	0 1 2 99	317 317 317
315	How many months pregnant are you/your partner? **Tingakhi tinyanga ukhulelwe/phathina wakho akhulelwe?**	☐☐ Months *If not sure, enter '99'*		
316	Where are you/where is your partner receiving ante-natal/pregnancy services? **Ngabe wena/phathina wakho usipopola kumuphi umtfolamphilo sisu sakho/sakhe (u-clinica kuphi)?**	Not receiving any This facility Another facility: *(drop down list)* RFM hospital (Nazarene) Mbabane Govt Hospital KSII/Sobhuza Clinic Herbal clinic Traditional healer/Inyanga FLAS Manzini Good Shepherd Hospital Hillside clinic LaMvelase clinic (Zombodze) Luyengo clinic Mankayane Manzini clinic Mkhulamini clinic	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14	SKIP TO 322 FOR ALL RESPONSES

No.	Question	Responses	Code	Skip
		Hospice at Home	15	
		Private doctor (ANY)	16	
		St Theresa's	17	
		Mobile clinic	18	
		Other (specify):_____	88	
		Don't know	99	
317	Are you or your partner *currently* doing something or using any method to avoid getting pregnant? (family planning) **Ngabe kukhona yini lokwentiwa nguwe/nguphathina wakho kulesikhatsi sanyalo kuhlela umndeni (ku-preventa)?** *If man has >1 partner, ask about main partner*	No	0	322
		Yes	1	
		N/A Male with no partner	99	322
318	What method are you/your partner **currently** using or doing? **Ngabe wena/phathina wakho usebentisa yiphi indlela yekuhlela umndeni kulesikhatsi samanje?** *Tick all that apply. Probe for use of a condom with another method.* *If **only** condoms mentioned, answer 320-322; if condoms AND another method mentioned, skip to 325.*	Pills (e.g. Microgynon)	1	325
		Herbal pills	2	325
		Injectables (e.g. DPMA, Noristerate, Norigynon)	3	325
		Male Condoms	4	
		Female condoms	5	
		Loop (IUD / coil)	6	325
		Implants (e.g. Jadelle, Implanon)	7	325
		Female sterilization	8	325
		Male sterilization (vasectomy)	9	325
		Diaphragm (cap)	10	325
		Foam/Jelly (spermicide)	11	325
		Breastfeeding (LAM)	12	325
		Rhythm method	13	325
		Withdrawal	14	325
		Morning after pill	15	325
		Other (specify)_____	88	325
		Don't know	99	325
319	Since you tested positive, did you or your partner ever use **any other method** apart from condoms to avoid getting pregnant? **Kusukela ngalesikhatsi uhlola ingati utfola kutsi uneligciwane leHIV ngabe ikhona yini lenye indlela yekuhlela umndeni ngaphandle kwemacondom wena noma phathina lenike nayisebentisa kuvikela kukhulelwa?**	No	0	325
		Yes	1	
320	What other family planning method did you/your partner use or do?	Pills (e.g. Microgynon)	1	
		Herbal pills	2	
		Injectables (DPMA/Noristerate/Norigynon)	3	

No.	Question	Responses	Code	Skip
	Nguyiphi lenye indlela yekuhlela umndeni leyasentjetiswa nguwe/nguphathina wakho? *Tick all that apply.*	Loop (IUD / coil) Implants (e.g. Jadelle, Implanon) Female sterilization Male sterilization (vasectomy) Diaphragm (cap) Foam/Jelly (spermicide) Breastfeeding (LAM) Rhythm method Withdrawal Morning after pill Other (specify)_____ Don't know	4 5 6 7 8 9 10 11 12 13 88 99	
321	Why did you/your partner stop using this other family planning method? **Ngusiphi sizatfu lesenta wena/phathina wakho kutsi uyekele/ayekele kusebentisa lendlela leyo yekuhlela umndeni?** *Tick all that apply*	Advised by provider to use condoms instead Problems with method side-effects Costs Positive HIV test result Provider advised to stop method Moved house/changed clinic Broke up with partner Stopped having sex Wanted a baby Partner wanted a baby Partner told me to stop Other (specify):_____ Don't know	1 2 3 4 5 6 7 8 9 10 11 88 99	SKIP TO 325 FOR ALL RESPONSES
322	**Since you tested positive**, did you or your partner ever do anything or use any method to avoid getting pregnant? (family planning) **Kusukela ngalesikhatsi uhlola ingati yakho utfola kutsi uneligciwane leHIV ngabe kukhona yini indlela leyasetjentiswa nguwe /nguphathina wakho kutsi nivikele kukhulelwa?**	No Yes N/A Male with no partner	0 1 99	325 325

No.	Question	Responses	Code	Skip
323	What family planning method did you/your partner use or do? **Nguyiphi indlela yekuhlela umndeni leyasentjetiswa nguwe/nguphathina wakho?** *Tick all that apply. Probe for use of condom with another method*	Pills (e.g. Microgynon) Herbal pills Injectables (DPMA/Noristerate/Norigynon) Male Condoms Female condoms Loop (IUD / coil) Implants (e.g. Jadelle, Implanon) Female sterilization Male sterilization (vasectomy) Diaphragm (cap) Foam/Jelly (spermicide) Breastfeeding (LAM) Rhythm method Withdrawal Morning after pill Other (specify)_____ Don't know	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 88 99	
324	Why did you/your partner stop using family planning? **Ngusiphi sizatfu lesenta wena/phathina wakho kutsi uyekele/ayekele kuhlela umndeni?** *Tick all that apply*	Advised by provider to use condoms instead Problems with method side-effects Costs Positive HIV test result Provider advised to stop Moved house/changed clinic Broke up with partner Stopped having sex Wanted a baby Got pregnant by mistake Partner told me to stop Other (specify):_____ Don't know	1 2 3 4 5 6 7 8 9 10 11 88 99	
325	How often have you talked with your partner about contraception: never, once, a few times or many times? **Uvamise kanganani kukhuluma ngekuhlela umndeni naloyo lotsandzana naye: asizange, kanye, kabidlana, kanyenti?**	Never Once A few times Many times n/a No partner	0 1 2 3 99	
326	Please can you tell me if you have experienced any of the following symptoms in the **past month**? **Ngicela kwati kutsi kuke kwenteka yini**	**Women only:** Vaginal discharge which is abnormal in colour, odour, amount or consistency; or any itching or irritation around the vagina or genital area? / **<u>Bomake kuphela:</u> lokuphuma langaphambili lokunembala neliphunga lelingaketayeleki**	1	If none ticked, skip to SECTI

No.	Question	Responses	Code	Skip
	kuwe naku lokulandzelako <u>kulenyanga lephelile</u>? *Read list and tick all that apply*	**lokubanga kuluma kulesitfo samake**		ON 4
		Men only: Abnormal discharge from your penis or any pain while urinating?/ **<u>Bobabe bodvwa:</u> Lokuphuma kulendvuku yakho lokungaketayeleki lokwenta kube buhlungu uma uchitsa emanti**	2	
		Women only: Pain in your lower abdomen (stomach)?/ **<u>Bomake bodvwa:</u> Buhlungu esinyeni?**	3	
		Ulcers, sores, blisters or lumps in your genital or groin area? / **Emachuchumba, tilondza, tigadla etimbilasheni noma kulesitfo sekutala**	4	
327	Did you discuss this symptom/these symptoms with a doctor/nurse at this clinic? **Ngabe ucocisene yini nanesi noma nadokotela wakulomtfolamphilo ngaletimphawu lobe nato?**	No Yes	0 1	
Section 4: SEXUAL BEHAVIOUR *"Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family life issues. Please remember all that you tell me is completely confidential."* ***"Nyalo ke ngitakubuta imibuto lemayelana nekulalana, ngenhloso yekucondzisisa lokunye lokuphatselene nemphilo yemndeni. Ngiyakukhumbuta kutsi tonkhe timphendvulo longinika tona titawugcineka kahle."***				
401	How many sexual partners have you had in the last 12 months? **Bangakhi bantfu lolalene nabo kuletinyanga letilishumi nambili letendlulile?**	☐☐ number *Enter '98' if client refuses to answer*		
402	How many sexual partners have you had in the last month? **Bangakhi bantfu lolalene nabo kulenyanga leyendlulile?**	☐☐ number *Enter '98' if client refuses to answer*		
403	Did you use a condom the last time you had sex? **Ngabe wayisebentisa yini icondom kulokulalana kwekugcina?** *Remind client you are not judging him/her*	No Yes Never had sex Refused to answer	0 1 88 98	 405 406 405
404	Why didn't you use a condom on that occasion(s)? **Yini sizatfu lesenta kutsi ungayisebentisi icondom kuleto/leso sikhatsi?** *Tick all that apply*	My partner also has HIV I don't enjoy sex with a condom My partner refused to use a condom We didn't have any condoms at hand I didn't want my partner to know my status Heat of the moment I was embarrassed to ask my partner to use a condom I was drunk and didn't think about using a	1 2 3 4 5 6 7 8	

No.	Question	Responses	Code	Skip
		condom		
		I was scared that my partner would leave me if I asked to use a condom	9	
		My religion says I shouldn't use a condom	10	
		We were trying to have a baby	11	
		We're using another family planning method to prevent pregnancy	12	
		Other (specify):_____	88	
405	Which of the following statements describes your situation? **Kuloku lokulandzelako shano kutsi ngukuphi lokucishe kuchaze simo sakho?** *Choose only one response..*	**Read list:**		
		I use a condom every time I have sex/ **Ngisebentisa icondom ngaso sonkhe sikhatsi**	1	
		I would like to use a condom all the time, but sometimes I don't / **Ngiyafisa kusebentisa icondom ngaso sonkhe sikhatsi kodvwa ngalesinye sikhatsi angiyisebentisi**	2	
		I use a condom every now and then / **Ngisebentisa icondom cishe sonkhe sikhatsi**	3	
		I never use condoms/ **Angike ngiwasebentise emacondoms**	4	
		I'm not having sex at all these days / **Kute umuntfu lengilalana naye kulamalanga**	5	
		Refused to answer/ **Uyala kuphendvula**	98	
406	Do you have or have you had a regular partner in the past 6 months? (Husband/wife/girlfriend/boyfriend) **Ngabe unaye noma bewunaye yini phathina lotsandzane naye kuletinyanga letisitfupha letendlulile?**	No	0	411
		Yes	1	
407	Have you disclosed your HIV status to your regular partner? **Ngabe lophathina wakho uyati kutsi wena uphila neligciwane leHIV?** *Ask about main partner if more than 1 regular partner, or most recent.*	No	0	
		Yes	1	
408	Has your regular partner tested for HIV? **Ngabe lophathina wakho sowulihlolile yini ligciwane leHIV?**	No	0	411
		Yes	1	
		Don't know	99	411
409	Has he/she shared his/her results with you? **Ngabe sewukutjelile yini imiphumela yeluhlolo lwengati yakhe?**	No	0	411
		Yes	1	
410	Would you be prepared to tell me your partner's HIV status? **Ngabe wena bowungangitjela yini simo sengati salophathina wakho?** *Please know that I will keep this information confidential*	HIV Negative	1	
		HIV Positive	2	
		HIV test done but not received results	3	
		Does not want to disclose results	4	

No.	Question	Responses	Code	Skip
411	Have you ever been abandoned by a partner because of your HIV status? **Ngabe ukhona yini phathina wakho lowake wakushiya/wakulahla ngesizatfu sekutsi uneligciwane leHIV?**	No Yes	0 1	
Section 5: SERVICES RECEIVED AND REFERRALS				
Please can you describe to me which providers you saw today and what you saw them for? **Ngicela ungichazele kutsi ngutiphi tisebenti temphilo lotibone namuhla nekutsi uchaze tizatfu takho tekubabona.**				
501	Who was the **first** provider you saw today? **Ngusiphi sisebenti semphilo <u>sekucala</u> losibonile?** *Include all health workers seen at the site, including group counsellors. Do not include receptionists.*	Nurse Doctor Adherence Counsellor Pharmacist Phlebotomist (lab) Other (specify):_____ No providers seen today	1 2 3 4 5 88 99	 523
502	What did you see him/her for? **Ngiphe sizatfu lesikwente kutsi umbone?** *Tick all that apply with each provider*	ART refill prescribing/check Drug dispensing Pre ART consultation Pre ART drugs dispensing Weighing &/or blood pressure Group counselling ART initiation consultation ART side-effects consultation Consultation for HIV-related problems (e.g. opportunistic infections, diarrhoea, cough) General advice/consult CD4 test or CD4 results Blood test (other) Condom provision STI screening/treatment ANC PMTCT advice Family planning Pap smear Postnatal care Other (specify):_____	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 88	
503	How long was your consultation with this provider? **Utsetse sikhatsi lesinganani nalesisebenti setemphilo?**	☐☐ minutes		
504	How long did you have to wait to see this provider? **Udeleze sikhatsi lesinganani ngalesikhatsi ufuna kubona lesisebenti setemphilo?**	☐☐☐ minutes		

No.	Question	Responses	Code	Skip
505	Who was the **second** provider you saw today? **Ngusiphi sisebenti setemphilo <u>sesibili</u> losibonile?** *Include all health workers seen at the site, including group counsellors. Do not include receptionists.*	No other providers seen Nurse Doctor Adherence Counsellor Pharmacist Phlebotomist (lab) Other (specify):_____	0 1 2 3 4 5 88	521
506	What did you see him /her for? **Ngiphe sizatfu lesikwente kutsi umbone?** *Tick all that apply with each provider*	ART refill prescribing/check Drug dispensing Pre ART consultation Pre ART drugs dispensing Weighing &/or blood pressure Group counselling ART initiation consultation ART side-effects consultation Consultation for HIV-related problems (e.g. opportunistic infections, diarrhoea, cough) General advice/consult CD4 test or CD4 results Blood test (other) Condom provision STI screening/treatment ANC PMTCT advice Family planning Pap smear Postnatal care Other (specify):_____	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 88	
507	How long was your consultation with this provider? **Utsetse sikhatsi lesinganani nalesisebenti setemphilo?**	☐☐ minutes		
508	How long did you have to wait to see this provider? **Udeleze sikhatsi lesinganani ngalesikhatsi ufuna kubona lesisebenti setemphilo?**	☐☐ minutes		
509	Who was the **third** provider you saw today? **Ngusiphi sisebenti setemphilo <u>sesitsatfu</u> losibonile?** *Include all health workers seen at the site, including group counsellors. Do not include receptionists.*	No other providers seen Nurse Doctor Adherence Counsellor Pharmacist Phlebotomist (lab) Other (specify):_____	0 1 2 3 4 5 88	521
510	What did you see him/her for?	ART refill prescribing/check	1	

No.	Question	Responses	Code	Skip
	Ngiphe sizatfu lesikwente kutsi umbone? *Tick all that apply with each provider*	Drug dispensing Pre ART consultation Pre ART drugs dispensing Weighing &/or blood pressure Group counselling ART initiation consultation ART side-effects consultation Consultation for HIV-related problems (e.g. opportunistic infections, diarrhoea, cough) General advice/consult CD4 test or CD4 results Blood test (other) Condom provision STI screening/treatment ANC PMTCT advice Family planning Pap smear Postnatal care Other (specify):_____	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 88	
511	How long was your consultation with this provider? **Utsetse sikhatsi lesinganani nalesisebenti setemphilo?**	☐☐ minutes		
512	How long did you have to wait to see this provider? **Udeleze sikhatsi lesinganani ngalesikhatsi ufuna kubona lesisebenti setemphilo?**	☐☐ minutes		
513	Who was the **fourth** provider you saw today? **Ngusiphi sisebenti semphilo <u>sesine</u> losibonile?** *Include all health workers seen at the site, including group counsellors. Do not include receptionists.*	No other providers seen Nurse Doctor Adherence Counsellor Pharmacist Phlebotomist (lab) Other (specify):_____	0 1 2 3 4 5 88	521
514	What did you see him/her for? **Ngiphe sizatfu lesikwente kutsi umbone?** *Tick all that apply with each provider*	ART refill prescribing/check Drug dispensing Pre ART consultation Pre ART drugs dispensing Weighing &/or blood pressure Group counselling ART initiation consultation ART side-effects consultation Consultation for HIV-related problems (e.g.	1 2 3 4 5 6 7 8 9	

No.	Question	Responses	Code	Skip
		opportunistic infections, diarrhoea, cough)		
		General advice/consult	10	
		CD4 test or CD4 results	11	
		Blood test (other)	12	
		Condom provision	13	
		STI screening/treatment	14	
		ANC	15	
		PMTCT advice	16	
		Family planning	17	
		Pap smear	18	
		Postnatal care	19	
		Other (specify):_____	88	
515	How long was your consultation with this provider? **Utsetse sikhatsi lesinganani nalesisebenti setemphilo?**	☐☐ minutes		
516	How long did you have to wait to see this provider? **Udeleze sikhatsi lesinganani ngalesikhatsi ufuna kubona lesisebenti setemphilo?**	☐☐ minutes		
517	Who was the **fifth** provider you saw today? **Ngusiphi sisebenti semphilo <u>sesihlanu</u> losibonile?** *Include all health workers seen at the site, including group counsellors. Do not include receptionists.*	No other providers seen	0	521
		Nurse	1	
		Doctor	2	
		Adherence Counsellor	3	
		Pharmacist	4	
		Phlebotomist (lab)	5	
		Other (specify):_____	88	
518	What did you see him/her for? **Ngiphe sizatfu lesikwente kutsi umbone?** *Tick all that apply with each provider*	ART refill prescribing/check	1	
		Drug dispensing	2	
		Pre ART consultation	3	
		Pre ART drugs dispensing	4	
		Weighing &/or blood pressure	5	
		Group counselling	6	
		ART initiation consultation	7	
		ART side-effects consultation	8	
		Consultation for HIV-related problems (e.g. opportunistic infections, diarrhoea, cough)	9	
		General advice/consult	10	
		CD4 test or CD4 results	11	
		Blood test (other)	12	
		Condom provision	13	
		STI screening/treatment	14	
		ANC	15	
		PMTCT advice	16	

No.	Question	Responses	Code	Skip
		Family planning	17	
		Pap smear	18	
		Postnatal care	19	
		Other (specify):_____	88	
519	How long was your consultation with this provider? **Utsetse sikhatsi lesinganani nalesisebenti setemphilo?**	☐☐ minutes		
520	How long did you have to wait to see this provider? **Udeleze sikhatsi lesinganani ngalesikhatsi ufuna kubona lesisebenti setemphilo?**	☐☐ minutes		
521	Were you referred by your provider today for any other service in another building or facility? **Ngabe kukhona yini encenye lapho umsiti wakho akulayele khona kuyotfola lolunye lusito kulenye indlu noma indzawo?** *Include any tests e.g. x-rays.*	No Yes	0 1	523
522	Please tell me what you were referred for? **Ngicela kubuta kutsi lusito lowendluliselwe lona nguluphi?** *Tick all that apply*	Lab tests (including x-ray) Pharmacy/dispensary TB services STI services Family planning Ante-natal care Postnatal care PMTCT services Pregnancy test Pap smear Gynaecology Mental health/psychiatry Oncology/cancer Cardiology/heart problems Ear/nose/throat problems Eye Department Internal Medicine Other (specify): _____	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 88	
	Reminder to interviewer: complete referral tracking data sheet at end of interview.			

Please can you tell me if you have received any of the following services since testing positive? ***Ngicela kwati kutsi ngabe lolusito lolulandzelako uke walutfola yini solo wacala kwati kutsi uneligciwane leHIV?***					
	Read list, but ask a-d for each service at a time:	a. When did you receive this service? **Walutfola nini lolusito?** *Enter most recent time received* *00 Never received since testing positive* *01 Received today* *02 Received in past month* *03 Received within past 12 months* *04 Received more than 12 months ago*	b. Which provider gave you the service? **Walutfola kubani/kuphi lolusito?** *01 Nurse* *02 Doctor* *03 Adherence counsellor* *04 Pharmacist* *05 Condo-can* *88 Other (specify)*	c. Did you get this service with your HIV provider in the same room, in a different room in this clinic, or somewhere else? **Ngabe lonkhe lolusito walutfola endlini yinye noma walutfola etindlini letahlukahlukene kuwona lomtfolamphilo noma encenye?** *01 Same room as HIV services* *02 Different room, but same building* *03 Different building, but same facility* *04 Different facility (specify)_____* *05 Condo-can*	d. Did you ask about or demand this service, or did the provider offer it to you first? **Ngabe lolusito lwacelwa nguwe noma wavele waniketwa nguloyo bekakusita?** *01 Client asked for it* *02 Provider offered it* *99 Not sure*
523	Advice about family planning (no method provision) **Kwelulekwa ngetekuhlela umndeni (kodvwa kube kute indlela yekuhlela loniketwa yona)**	☐☐ SKIP TO 524 if '00'	☐☐ _____	☐☐ _____	☐☐
524	Family planning method provision (other than condoms) **Kwelulekwa ngetekuhlela umndeni kanye nekuniketwa indlela yekuhlela umndeni (ngaphandle kwe condom)**	☐☐ SKIP TO 525 if '00'	☐☐ _____	☐☐ _____	☐☐
525	Advice about getting pregnant with HIV or planning your family **Kwelulekwa ngekukhulelwa uma uneligciwane leHIV, noma kulungiselela umndeni** **(C***ounselling on risks of pregnancy with HIV; need for good nutrition; need to have a higher CD4 count;*	☐☐ SKIP TO 526 if '00'	☐☐ _____	☐☐ _____	☐☐

	how to have safe sex; etc.)				
526	Counselling on condom use **Kwelulekwa ngekusebentisa icondom**	☐☐ SKIP TO 527 if '00'	☐☐ _____	☐☐ _____	☐☐
527	Provision of condoms **Kuniketwa emacondom**	☐☐ SKIP TO 528 if '00'	☐☐ _____	☐☐ _____	☐☐
528	Advice about sexual health (e.g. sexual desires, erection/libido problems) **Kwelulekwa ngemphilo yekulalana lokufaka ekhatsi inkhanuko, tinkinga tekuma kwendvuku yababe noma tinkinga tayo inkhanuko**	☐☐ SKIP TO 529 if '00'	☐☐ _____	☐☐ _____	☐☐
529	Counselling/questioning about your sexual relationships and behaviours (e.g. how many partners you have, the HIV status of your partner) **Kwelulekwa noma kubutwa imibuto lemayelana nekulalana kanye nekutiphatsa kwakho njengako kutsi bophathina bakho bangakhi nekutsi simo sabo sengati sitsini**	☐☐ SKIPTO 530 if '00'	☐☐ _____	☐☐ _____	☐☐
530	Pelvic/genital examination **Kupotjolwa kwesitfo sangansense**	☐☐ SKIP TO 531 if '00'	☐☐ _____	☐☐ _____	☐☐
531	**Women only:** Pap smear (pelvic exam with swab/sample sent away for testing) **Kupotjolwa kwesinye ngekutsatsa incenye yalawo mantana laba sesitfweni samake sekutala endluliselwe lapho ahlolwa khona**	☐☐ SKIP TO 532 if '00' Enter '99' if man	☐☐ _____	☐☐ _____	☐☐

No.	Question	Responses	Code	Skip
532	**During your visit today**, would you have liked to discuss or to receive any more information on any of the following issues? **<u>Kulokuvakasha kwakho lamuhla</u> lapha emtfolamphilo, ngabe bewungakutsakasela yini kucoca noma kutfola lolunye lwati kunati tihloko letilandzelako** *Read list and tick all that apply. Emphasise whether they would have liked information TODAY during their visit.*	TB / **Sifo sesifuba sengati**	1	
		Family planning / **Tekuhlela umndeni**	2	
		Sexually transmitted infections / **Tifo tagcunsula**	3	
		Counselling on how/when to get pregnant / **Kwelulekwa ngekutfola umntfwana nangesikhatsi sekukwenta loko**	4	
		Counselling on sexual functioning/libido / **Kwelulekwa ngekusebenta kwetitfo tekulalana kanye nenkhaphukhaphu yako kulalana**	5	
		Pregnancy testing / **Kuhlola make kutsi utetfwele yini**	6	
		Advice about pregnancy or childbirth / **Kwelulekwa kwamake lotetfwele noma lonemntfwana**	7	
		Advice about healthcare for your baby or child / **Kwelulekwa ngekunakekelwa kwemntfwana**	8	
		Information about ART, pill-taking or side-effects / **Lwati ngemaphilisi ekudzindzibalisa ligciwane leHIV kanye nekukuphatsa kwawo**	9	
533	Have you attended or are you attending a support group for people living with HIV? **Ngabe uke waba yincenye noma uyincenye yini yesicheme salabo labakhutsata labo labaphila neligciwane leHIV (support group)?**	No Yes	0 1	SECTION 6
534	Did you attend/are you attending a group linked to this facility or somewhere else? **Ngabe bewuya/ uya kulesicheme lesichumana nalomtfolamphilo lona noma uya encenye?**	Group linked to this facility Group elsewhere	1 2	
535	How often did you or do you attend the group meetings? **Ngabe bewuya/uya emahlandla lamangakhi emihlanganweni yalesicheme?**	At least once a week At least every 2 weeks At least every month At least every 6 months At least once a year Less than once a year	1 2 3 4 5 6	

Section 6: QUALITY, SATISFACTION WITH SERVICES AND STIGMA

"Now I would like to ask some questions on how you feel about the services here. Please remember that NONE of the information in this questionnaire will be told to the nurses and doctors here."

"Nyaloke ngitakubuta imibuto lephatselene nemuvo wakho ngalolusito lolutfola kulomtfolamphilo. Ngicela kukukhumbuta kutsi akukho nakunye lokutawutjelwa bonesi noma bodokotela bakulomtfolamphilo"

I am going to read some statements about your visit to the clinic today. I would like you to say how much you agree with these statements – please give an answer on a scale of 1 to 5, with 1 being "strongly disagree", 2: "disagree", 3 "mixed feelings, 4 "agree" and 5 meaning "strongly agree" *Tick box*

Ngitakufundzela lokutsite mayelana nekuvakasha kwakho kulomtfolamphilo lamuhla. Ngicela usho kutsi uvumelana kanganani naloku lengitakusho. Esikalini lesisuka kukunye kuya kulokusihlanu, lakhona inombolo yekucala (1) isho kutsi awuvumelani nhlobo naloko lengikushoko (2) Yesibili isho kutsi awuvumi (3) Yesitsatfu isho kutsi kukhona kungabata lonako (4) Yesine isho kutsi uyavuma (5) Yesihlanu isho kutsi uvumelana kakhulu naloko lengikushoko

	Statements	**Scale Disagree--------Agree**
601	The staff were friendly / **Letisebenti betinemusa tiphindze tikhulumiseka**	1 2 3 4 5
602	The nurses and doctors listened to me / **Bonesi nabodokotela bangilalele kutsi ngitsini**	1 2 3 4 5
603	I got all the information I needed during today's consultation / **Ngilutfole lonkhe lwati lebengiludzinga ngekuta kwami kulomtfolamphilo lamuhla**	1 2 3 4 5
604	My consultation was private / **Ngibe naso sikhatsi na nesi noma dokotela sobabili nje kuphela**	1 2 3 4 5
605	I felt free to tell the nurses and doctors personal and private information about my sex life / **Ngitive ngikhululekile kucocisana nabonesi nabodokotela ngemphilo letsintsa buntfu bami kanye nemphilo yami yekulalana**	1 2 3 4 5
606	The waiting time was reasonable / **Sikhatsi sekudeleza kube ngulesincomekako**	1 2 3 4 5
607	This clinic always has the drugs I need / **Lomtfolamphilo lona uhlala unawo emaphilisi noma imitsi lengiyidzingako**	1 2 3 4 5
608	I would recommend this clinic to a friend / **Ngingamkhutsata umngani wami kutsi awuvakashele lomtfolamphilo**	1 2 3 4 5
609	Others can find out my status when I come to this clinic for HIV services / **Labanye bangati ngesimo sami sengati uma ngiphindze ngita kulomtfolamphilo kutotfola lusito ngeligciwane leHIV**	1 2 3 4 5
610	It bothers me if other people in the waiting room know my status / **Kuyangikhatsata uma labanye bantfu lapho kulindvwa ngakhona nabo bati ngesimo sami sengati**	1 2 3 4 5
611	Staff members at this clinic might tell other people about my HIV status without my permission / **Labanye labasebenta kulomtfolamphilo bangabatjela labanye bantfu kutsi ngineligciwane leHIV bangenayo imvume yami yekwenta loko**	1 2 3 4 5
612	People living with HIV are treated with respect in this clinic / **Bantfu labaphila neligciwane leHIV baphatseka ngenhlonipho kulomtfolamphilo**	1 2 3 4 5
613	It's better if HIV services are separated from other health services / **Kuncono ngalesikhatsi lusito lolumayelana neligciwane leHIV luhlukanisiwe kuletinye tingoni letinika lusito ngetemphilo**	1 2 3 4 5
614	How much did you pay for your consultation(s) today, including cost of any drugs? **Ngabe ukhokhe malini yelusito, kanye nemaphilisi lamuhla?**	E ☐☐.☐☐

END			
Time interview ended:	☐☐.☐☐ (HH:MM)		
Status of interview	Complete Incomplete	1 2	END
Reason why interview finished early:	Client not eligible (not ART/preART client) Client had to leave Client did not want to continue Interview was interrupted Other (specify):_____	1 2 3 4 88	

"Thank you for taking the time to do the interview. This information will be very helpful in helping to improve health services in Swaziland" /
"Siyabonga kutinika sikhatsi ngalolucwaningo. Lombiko utawuba lusito kakhulu ekutfutfukiseni temphilo eSwatini."

Appendix 8. Referral tracking form (from HIV exit survey)

FACILITY NAME: _____ **INTERVIEWER :_____**

"I would like to ask for your name and phone number so that we could call you in 2 to 3 months to ask about this referral appointment. Please remember that this information will be stored in a separate place to the rest of the questionnaire, and your name will not appear anywhere on the main questionnaire. /
Ngingatsandza kucela libito lakho nenombolo, khona sitokushayela etinyangeni letimbili noma letintsatfu kuvisisa kahle ngale-slip. Umbiko lolapha ugcinwa ngalokwehlukile kunalobutwe kona phambilini, libito lakho nenombolo ngeke kuvele kulemibuto lesicale ngayo"

Date	Client ID no. from exit interview	Facility Referred to (If referred to another unit within same facility, write "same")	Dept/service referred to	Client agrees to phone contact? (tick)	Client name	Client phone no.	Whose phone? (client's, family member, friend?)
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	☐☐☐☐☐☐☐						
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Appendix 9. Informed consent and information sheets

i) Informed consent for provider interviews

Participant ID _____ Date of interview _____

Hello. I am a research student from a university in London, England: the London School of Hygiene and Tropical Medicine. I am conducting research on health services in Manzini, looking at how they provide and integrate sexual and reproductive health and HIV services. I would like to learn about your experiences as a healthcare provider, and to seek your advice about how these services can be improved.

All the information that you choose to provide is voluntary, and your name will not be used in any reports. You are free to stop the interview at any point, without giving any reason, or to not answer any of the questions that we ask. I will not write down your name. You will not be quoted in any report, even anonymously, unless you give me permission to do so.

Your answers will be used to learn from the work that you are doing and to develop better sexual and reproductive health and HIV services for your clients. However, your decision not to participate or to withdraw from the study will not affect you in any way, including your career or access to health care, either now or in the future.

Have you got any questions you would like to ask? Are there any things you would like me to explain again or say more about?

Do you agree to be interviewed? ***Record response Yes / No***

If you don't mind, I would like to record our discussion. This is to help me remember what you say. The recording will not be played to anyone. The machine will be kept in a locked place and only the researchers will have access to the recordings. Once I have taken notes from the recordings, they will be destroyed. If you would prefer that we do not record the interview, I can take notes instead. These recordings will be kept confidential and will not mention your name.

Do I have your permission:

To record our conversation? ***Record response Yes / No***

To quote your words (without identifying your name)? ***Record response Yes/No***

To disseminate information without showing the results to you?* ***Record response Yes/No***

** If not, I would send the information to you prior disseminating with a given deadline for response.*

If you have any other questions about this study later, you can contact me, Kathryn Church, at 6767 253, or at the FLAS Office in Manzini. Thank you.

Signed (participant):…… Date: ……..

Signed (interviewer):…… Date:……..

ii) Information sheet for healthcare providers

What is this study about?

A university in London (England) is studying different HIV services in Manzini, in collaboration with the Ministry of Health and Social Welfare, FLAS and the Population Council:

- [Clinic A]
- [Clinic B]
- [Clinic C]
- [Clinic D]

The study is trying to investigate whether there are advantages to offering 'integrated' healthcare services, or whether specialised health services are more effective for addressing the needs of HIV positive clients. We are particularly interested in looking at services where HIV care is integrated with sexual and reproductive health services (family planning, pregnancy care, sexually transmitted infections, etc). We are going to be looking a range of different clinics in the Manzini area, including two integrated clinics, one hospital facility, and one specialised HIV clinic.

Why have I been invited to take part?

The study involves a range of different activities:

- interviews with patients to see how they perceive the care they are receiving and what their needs are for integrated care
- interviews with you, the healthcare providers (doctors, nurses, lay counsellors) to see how you view integrated and specialised care
- observations of clinical consultations between nurses/doctors and HIV patients (an observer sits in the nurse's/doctor's room and makes notes of what happens)
- exit survey with clients, including tracking their referral

Therefore, several of these activities require the participation of you the provider. We would like to learn from you about these health services so we can help to improve them in the future.

What will happen to me if I decide to take part?

If you decide to take part we will ask you to give us your written permission to show you have agreed to join the study. All the information collected in the study will be kept completely confidential. No quotes or other results arising from my participation in this study will be included in any reports, even anonymously, without my agreement.

What if I decide not to take part?

Your decision not to participate or to withdraw from the study will not affect you in any way, including your career or access to health care, either now or in the future.

Thank you for agreeing to take part in this study – we greatly appreciate your help to try and make health services better for the people of Swaziland!

If you would like any more information on this study, or would like some advice after taking part in the study, please contact Kathryn Church on 676 7253 or 505 6737, or visit her at the FLAS/Manzini office.

iii) Informed consent for client IDIs (To be translated into SiSwati)

Identification code for recording_____ Date of interview _____

Introduction
Hello. My name is_____ . I am a research student working with a researcher from a university in London, England: the London School of Hygiene and Tropical Medicine. We are conducting research on HIV clinics in Manzini in partnership with the Ministry of Health and Social Welfare, FLAS and the Population Council. We are looking at how different clinics provide HIV services and other sexual and reproductive health services. I would like to ask you some questions about your experience as a client at the _____ clinic, and seek your advice about how these services can be improved.

All the information that you choose to provide is voluntary, and your identity will be kept strictly confidential (nobody will know that you have spoken with me). You are free to stop the interview at any point, without giving any reason, or to not answer any of the questions that we ask. I will not write down your name. Your decision not to participate or to withdraw from the study will not affect you in any way, including your access to health care, either now or in the future.

Your answers will be used to learn from your experience as a client and to improve the provision of health services in Swaziland, and in other countries in Africa. Again, I would like to promise you that nobody else will find out that you are saying things about this health service.

If you agree, we would like to interview you three times. Once today, next in two month's time (*say approximate date)*, and finally in six month's time *(say approximate date):* each time would be the same day as your routine appointment at the clinic here. We would call you before each appointment to confirm that you can be interviewed. If you prefer, we can also do follow up interviews at a different location. We will reimburse you the cost of a taxi fare home to your house after the interview (approximately 25.00 E)

Have you got any questions you would like to ask? Are there any things you would like me to explain again or say more about?

Do you agree to be interviewed? ***Yes / No***

If you don't mind, I would like to record our discussion. This is to help me remember what you say. The tape will not be played to anyone. The recording will be kept in a locked place and only the investigators will have access to this machine. Once I have taken notes from the recordings, they will be destroyed. If you would prefer that we do not record the interview, I can take notes instead. These will be kept confidential with no mention of your name.

Do I have your permission:

- **To record our conversation?** ***Yes / No***
- **To quote what you say (without identifying who you are)?** ***Yes / No***
- **To disseminate information without showing the results to you?*** ***Yes/No***

** If no, I would send the information to you prior disseminating with a given deadline for response.*
Thank you.
Signed/Thumbprint (participant):…… Date: ……..

Signed (interviewer):…… …… Date: ……..

iv) Client IDI information sheet:

Study on health services in Manzini

What is this study about?

A student from a university in London (England) is studying four clinics in Manzini, in collaboration with the Ministry of Health and Social Welfare, FLAS and the Population Council:

- [Clinic A]
- [Clinic B]
- [Clinic C]
- [Clinic D]

The study is trying to find out about whether there are advantages or disadvantages to offering 'integrated' services. This means clinics where HIV care is provided together with family planning, pregnancy care, sexually transmitted infections, meaning that they are all offered together in one clinic. We are going to be looking a range of different clinics to see whether there are also some advantages or disadvantages to offering HIV patients specialised care.

Why have I been invited to take part?

The study involves a series of three repeated interviews with patients, interviews with doctors and nurses, and a survey with a larger number of patients from each clinic. We would like you to participate in this study as we want to know how you experience health services in this town.

What will happen to me if I decide to take part?

If you decide to take part we will ask you to give us your written permission to show you have agreed to join the study. You will be interviewed at three points in time:

1) At the time of your initiation onto ART treatment
2) 2 months after your initiation
3) 4 months after that (that is, 6 months after your initiation onto ART).

We can interview you at the time of your routine clinic visit, or, if you would prefer, we can arrange another location to do the interview. You will do the interviews in a private room, and the interviews will be recorded. We will telephone you 3 days before your scheduled appointment at the clinic to ask if you are planning to attend and reconfirm our interview appointment. We will therefore ask for a contact number to reach you on.

We will also reimburse you for a cost of a taxi fare home after each interview (25,00E).

Will anybody know I have been interviewed?

All the information collected in the study will be kept completely confidential, and nobody needs to know that you have been involved in this study. Your name will not be used in the study, and will not appear anywhere.

What if I decide not to participate?

Your decision not to participate or to withdraw from the study will not affect you in any way, including your access to health care, either now or in the future. You are free to decide to not participate.

Where can I get more information?

If you would like any more information on this study, or would like some advice after taking part in the study, please contact Kathryn Church on 6767 253 or 505 6737, or Sanele Masuku on XXXXX.

Thank you for agreeing to take part in this study – we greatly appreciate your help to try and make health services better for the people of Swaziland!

v) Information Sheet, HIV Exit Survey

Study on Integrating HIV with sexual and reproductive health services
HIV Exit Survey: Participant Information Sheet

We are inviting you to take part in a research project. Before you decide whether to take part, you need to understand why the research is being done and what it would involve for you. Please take time to read or to listen as I read the following information carefully. Please ask us if there is anything that is not clear or if you would like more information.

1. What is the research about?
We are doing a study on ways to improve health services in Swaziland on behalf of the Ministry of Health. We are particularly interested in family planning, sexual health, HIV and health services for pregnant women and young people.

2. Why have I been invited to take part?
You have been invited to take part because you have attended this HIV clinic today.

3. What will happen to me if I decide to take part?
If you decide to take part we will ask you to give us your written permission to show you have agreed to join the study. You will then take part in a confidential interview with myself. I will ask you about your experiences at the clinic today and your current situation and needs related to family planning, pregnancy and sexual health. We will also ask about your opinions on the clinic. If you have been referred to another clinic today, we will follow up with you in 2 or 3 months time with a phone call to ask if you reached your referral site or not.

4. Are there any possible benefits or risks in taking part?
Although there is no immediate benefit to you in taking part, the information that you provide will help us to improve the quality of HIV and reproductive health services in Swaziland. There are no risks to taking part in this study.

5. Will my taking part in the study be kept confidential?
The information that is collected during the interview will not contain anything that could identify you to anyone outside the research team. You will be given a special research number that will be used for storing the information instead of using your name. If you have been referred to another clinic, we will take your name and phone number to contact you later, but this information will be written on a separate sheet, and stored separately to the other information you give us. Only members of the research team will have access to the interviews. No one will be told that you have been interviewed for the study. Because of the confidential nature of some questions it would be good if we could sit somewhere private.

6. Do I have to take part?
No, you do not have to take part in the study – it is up to you to decide. Even if you decide to take part, you are still free to withdraw at any time without giving a reason. If you decide not to participate or to withdraw from the study this will not affect you in any way, including your access to health care or current services you receive either now or in the future.

7. What will happen to the results of this survey?
The results of the survey will be discussed at medical conferences and published in scientific journals. However I assure you that your name or any other personal information will not be used.

8. Who has reviewed the study?
This study has been approved by the Ministry of Health.

9. Further information.
Further details about the study can be obtained from: Ntokoso Fakudze, Tel: 632 7512; Joshua Kivuki or

Kathryn Church at FLAS, Tel: 505 6737.

If you have any questions about participating in the research please contact:

Neliswe Sikhosana (Ministry of Health), Tel: 4042431

vi) Consent sheet, HIV exit survey

PARTICIPANT ID NUMBER: _____

INTEGRA: Integrating sexual and reproductive health services and HIV services

Participant Consent Form

Please tick each box to show that you agree:

1. I confirm that I have read / I have heard and understand the information sheet f above study. ☐

2. I have had the opportunity to consider the information, ask questions and have these answered satisfactorily. ☐

3. I understand that my participation is voluntary and that I am free to withdraw at time without giving any reason. ☐

4. I understand that any personal data collected will be kept confidential. ☐

5. I agree to take part in the above study. ☐

_____ _____ _____
Name of participant Date Signature

I, the interviewer, have explained the procedures to be followed in this study, and th risks and benefits involved to the respondent in a language she or he understands. ☐

_____ _____ _____
Researcher Date Signature

Appendix 10. Bivariate analyses

This appendix provides stratified analyses where there was some evidence of interaction

1) Evidence of effect modification on 'received family planning counseling'

Association between clinic and recipt of family planning counselling, stratified by ART status (with Clinic D as baseline)

	Odds A:D			Odds B:D			Odds C:D		
Variable	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***
Total N=476									
Crude OR	**1.82**	**(0.95 - 3.49)**		**2.85**	**(1.71 - 4.76)**		**1.64**	**(1.01 - 2.65)**	
On ART									
Pooled	*2.16*	*(1.34 - 3.49)*		*4.14*	*(2.40 - 7.16)*		*1.59*	*(0.82 - 3.07)*	
Not on ARVs	0.33	(0.06 - 1.78)	0.008	*1.05*	*(0.32 - 3.47)*	0.008	*1.05*	*(0.25 - 4.35)*	0.513
On ARVs	2.70	(1.59 - 4.58)		6.00	(3.09 - 11.66)		1.79	(0.84 - 3.79)	

*Mantel-Haenszel test for homogeneity of odds

Association between clinic and recipt of family planning counselling, stratified by ART status (with Clinic C as baseline)

	Odds A:C			Odds B:C			Odds D:C		
Variable	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***
Total N=476									
Crude OR	**0.83**	**(0.44 - 1.57)**		**1.78**	**(1.07 - 2.97)**		**0.45**	**(0.28 - 0.74)**	
On ART									
Pooled	*0.91*	*(0.48 - 1.76)*		*2.36*	*(1.34 - 4.17)*	*0.647*	*0.46*	*(0.29 - 0.75)*	*0.008*
Not on ARVs	3.14	(0.62 - 15.82)	0.072	*3.16*	*(0.80 - 12.51)*		*3.00*	*(0.56 - 15.99)*	
On ARVs	0.66	(0.31 - 1.41)		2.22	(1.19 - 4.16)		0.37	(0.22 - 0.63)	

*Mantel-Haenszel test for homogeneity of odds

2) Evidence of effect modification on 'condom provision'

Association between clinic and recipt of condoms, stratified by sex (with Clinic D as baseline)

	Odds A:D			Odds B:D			Odds C:D		
Variable	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***
Total N=603									
Crude OR	**0.20**	**(0.11 - 0.38)**		**0.18**	**(0.11 - 0.30)**		**0.37**	**(0.23 - 0.58)**	
Sex									
Pooled	*0.18*	*(0.09 - 0.35)*		*0.21*	*(0.13 - 0.33)*		*0.34*	*(0.21 - 0.55)*	
Male	0.03	(0.00 - 0.44)	0.118	0.01	(0.00 - 0.27)	0.006	0.06	(0.01 - 0.53)	0.052
Female	0.22	(0.11 - 0.45)		0.27	(0.16 - 0.45)		0.41	(0.25 - 0.69)	

*Mantel-Haenszel test for homogeneity of odds

3) Evidence of effect modification on 'received pregnancy advice'

Association between clinic and recipt of pregnancy counselling, stratified by age group (with Clinic D as baseline)

	Odds A:D			Odds B:D			Odds C:D		
Variable	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***
Total N=603									
Crude OR	**1.39**	**(0.63 - 3.08)**		**1.92**	**(1.01 - 3.64)**		**3.24**	**(1.75 - 6.01)**	
Age group									
Pooled	*1.52*	*(0.78 - 2.94)*		*2.27*	*(1.33 - 3.88)*		*2.56*	*(1.54 - 4.24)*	
<25 yrs	1.47	(0.35 - 6.24)	0.063	3.33	(0.95 - 11.74)	0.517	17.14	(1.16 - 252.91)	0.051
25-29	5.82	(1.00 - 33.81)		1.81	(0.73 - 4.48)		1.71	(0.65 - 4.53)	
30-39	1.63	(0.54 - 4.92)		2.80	(1.18 - 6.63)		5.06	(1.86 - 13.79)	
≥ 40 yrs	0.18	(0.02 - 1.81)		0.55	(0.04 - 6.77)		1.23	(0.50 - 3.02)	

*Mantel-Haenszel test for homogeneity of odds

4) Evidence of effect modification on 'unmet needs for family planning'

Association between clinic and unmet need for family planning, stratified by marital status (with Clinic D as baseline)

	Odds A:D			Odds B:D			Odds C:D		
Variable	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***
Total N=286									
Crude OR	**2.54**	**(1.08 - 5.94)**		**1.99**	**(1.04 - 3.81)**		**1.05**	**(0.52 - 2.13)**	
Marital status									
Pooled	*2.40*	*(1.10 - 5.26)*		*1.90*	*(1.03 - 3.49)*		*1.04*	*(0.54 - 2.01)*	
Not married	13.50	(2.39 - 76.24)	0.005	9.53	(2.38 - 38.14)	0.001	5.68	(1.47 - 21.94)	<0.001
Married/living with partner	0.89	(0.29 - 2.79)		0.82	(0.36 - 1.86)		0.35	(0.13 - 0.96)	

*Mantel-Haenszel test for homogeneity of odds

Association between clinic and unmet need for family planning, stratified by marital status (with Clinic C as baseline)

	Odds A:C			Odds B:C			Odds D:C		
Variable	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***	**Stratum OR**	**95% CI**	**P value***
Total N=286									
Crude OR	**2.41**	**(1.00 - 5.83)**		**1.89**	**(0.95 - 3.76)**		**0.95**	**(0.47 - 1.92)**	
Marital status									
Pooled	*2.47*	*(0.98 - 6.20)*		*1.99*	*(0.97 - 4.04)*		*0.96*	*(0.50 - 1.84)*	
Not married	2.38	(0.65 - 8.72)	0.933	1.68	(0.62 - 4.54)	0.642	0.18	(0.05 - 0.68)	<0.001
Married/living with partner	2.57	(0.70 - 9.49)		2.35	(0.84 - 6.54)		2.87	(1.04 - 7.93)	

*Mantel-Haenszel test for homogeneity of odds

Appendix 11. Conference abstracts

1) 6th International Conference on HIV Pathogenesis, Treatment & Prevention (Rome, July 2011)

It's all about the condom: contraceptive practices and unmet needs for family planning among women attending ART clinics in Swaziland

Church, K; Fakudze, P; Kikuvi,, J; Sikhosana, N; Simelane, D; Wringe, A; Mayhew S; for the INTEGRA research team

Background: Few reports have examined the contraceptive practices and unmet needs for family planning (FP) among women attending HIV care. Addressing these needs has the potential to reduce unintended pregnancies and vertical transmission of HIV.

Methods: An exit survey (n=611) was conducted to investigate patterns in contraceptive use, with logistic regression modelling used to identify determinants of unmet family planning (FP) need. These findings were triangulated with data from in-depth interviews with providers and clients (N=37).

Results: 75% of women (N=486) reported current modern contraceptive method use, but the majority (87%) relied on condoms alone and only 6% practiced dual method use. While rates of consistent condom use were higher when condoms were used for FP than when used for other reasons (cOR 5.27, 95%CI 3.30-8.41), qualitative data contested the validity of these findings. Women were much more likely to have received condom counselling (90%) than family planning counselling (58%). Overall, 32% of women had unmet needs for FP; in adjusted analysis these were associated with younger age, unmarried status, higher parity, death of child, and not discussing FP with partner. Clinic barriers to FP access included: provider belief that condoms are the only appropriate FP method for HIV+ women; training deficiencies on other FP methods; lack of service integration and a reliance on internal/external referral to address FP needs. Client barriers included: partner cooperation; pressure to have children; and fear of side-effects and pill burden with oral contraceptives.

Conclusions: While overall rates of contraceptive use were encouragingly high, an over-reliance on condoms for FP is worrying given problems with consistent use. Higher unmet needs among young, unmarried and high parity women also deserve attention. Dual method use should be promoted in ART in this setting, and all providers trained in the provision of highly effective contraceptives.

Are HIV-only clinics stigmatizing for clients? An evaluation of client satisfaction and stigmatization within integrated and stand-alone HIV services in Swaziland

Church, K; Fakudze, P; Kikuvi, J; Sikhosana, N; Simelane, D; Wringe, A; Mayhew S; for the INTEGRA research team

Background: Delivering care through 'HIV-only clinics' has been postulated to increase stigmatization of people living with HIV through involuntary disclosure of status. More specialist sites, conversely, may be associated with higher quality.

Methods: A mixed methods study was conducted in four HIV clinics in Swaziland, two stand-alone and two integrated with sexual and reproductive health (SRH), to investigate the relationship between model of health care, stigma and client satisfaction. Logistic regression modelling was used to analyse the association between clinic model and i) fear of disclosure and ii) satisfaction, among 602 clinic survey participants. Survey findings were triangulated with data from 37 in-depth interviews with providers and clients.

Results: Clients at all clinics showed a high level of satisfaction across 8 indices (mean score 4.24/5.00). Clients at stand-alone sites were more comfortable about other clients knowing their status than those in integrated sites (cOR 0.70, p=0.034) and were much more likely to feel HIV

services should be separate (cOR 6.36, p<0.001). In adjusted analysis, there was no consistent pattern in the association between clinic model and satisfaction, or perceived risk of status disclosure. Qualitative data suggest this is because clients perceived low disclosure risk knowing other clients in the waiting room were HIV+; they also felt better supported in that environment. Efforts to ensure confidentiality in HIV clinics (e.g. separate VCT and ART waiting areas, careful clinic and room labelling) can help reduce service-related stigma and increase satisfaction.

Conclusions: These results suggest that many clients are happy with the clinic they attend, irrespective of integration model. The hypothesis that stigma is reduced by service integration does not hold true in this high prevalence setting. Those aiming to scale-up ART should bear in mind these benefits of stand-alone clinics, while taking measures to assure confidentiality across all sites.

2) 20th World Congress for Sexual Health (Glasgow, June 2011)

Does service integration reduce HIV-related stigma? A comparison of integrated and stand-alone HIV and sexual and reproductive health services in Swaziland

Church, K; Fakudze, P; Kikuvi, J; Wringe, A; Mayhew, S

Background: Service integration is postulated to reduce stigmatization of people living with HIV by delivering care in settings disassociated with HIV. A mixed methods study was conducted in four HIV clinics in Swaziland, two stand-alone and two integrated with sexual and reproductive health (SRH), to investigate the relationship between stigma and model of health care.

Methods: 22 clients were interviewed in-depth, and an exit survey was conducted among 602 clients from the 4 clinics. Clients' comfort in the clinic environment and preferences for integrated/specialised care were examined. The association between clinic model and perceived risk of status disclosure through clinic attendance was measured using logistic regression.

Results: Clients across all sites felt respected by their providers. Clients at integrated sites felt more uncomfortable about other clients knowing their status than those in stand-alone sites (z=-7.19, p<0.001) and were less likely to favour specialist HIV care (z= 14.1, p<0.001). In regression analysis there was no consistent pattern in the association between clinic model and perceived risk of status disclosure. Qualitative findings suggest this is because many clients at specialist sites felt greater confidentiality knowing that others around them were positive. They also reported gaining support from others in the waiting room. Efforts to ensure confidentiality (e.g. separate VCT and ART waiting areas, careful clinic and room labelling) can help reduce service-related stigma.

Conclusion: The hypothesis that stigma is reduced by service integration does not hold true in this high prevalence setting. Specialist sites can assure confidentiality if appropriate measures are taken.

3) Global Symposium on Health Systems Research (Montreux, November 2010)

Does service integration promote access to health care? A comparison of integrated and stand-alone HIV and sexual and reproductive health services in Swaziland

Authors: Church, K; Kikuvi, J; Simelane, D; Sikhosana, N; Wringe, A; Mayhew, S; for the INTEGRA research team

Objectives: Integrated services can improve access to healthcare through the provision of multiple component services within one consultation room or facility. We studied the effect of service integration in Swaziland through an observational study of two stand-alone HIV clinics and two HIV clinics integrated with sexual and reproductive health (SRH) services.

Methods: A client exit survey (n=611) examined the SRH needs of people living with HIV (PLWH) and compared service access outcomes between integrated and stand-alone sites. Logistic regression modelling was used to evaluate associations between clinic model and SRH service use since testing HIV positive, controlling for confounding. This analysis is supplemented by qualitative data from in-depth interviews with 22 HIV clients and 15 HIV providers.

Results: We found unmet needs for SRH services across all sites: while 57% clients had received some advice on family planning (FP), 81% of clients rely on condoms alone, only 6% report current dual method use, and 41% of women were found to have an unmet need for FP. Adjusted analyses demonstrate that women in integrated clinics were more likely to have accessed family planning services (aOR 2.55, 95%CI 1.48-4.41) and pap smears (aOR 3.17, 95%CI 1.64-6.15) since testing HIV positive than those in stand-alone sites. However, both men and women at integrated sites were less likely to have received condoms (aOR 0.30, 95%CI 0.19-0.46) and sexual health screening (aOR 0.72, 0.48-1.06). Qualitative data suggest that providers at integrated sites felt more ready to offer SRH services to HIV clients, but problems were identified with capacity and internal referral mechanisms.

Conclusion: Integrated sites did not consistently perform better than stand-alone sites in improving access to component services. If programmes aim to scale-up access to SRH and HIV services through service integration, more effort is required to harness its potential.

4) International AIDS Conference (Vienna, July 2010)

Do integrated services perform better than specialist sites at meeting the SRH needs of people living with HIV? Experiences of a qualitative cohort of HIV clients at ART initiation in Swaziland

Church, K; Fakudze, P; Masuku, S; Mayhew S; for the INTEGRA research team

Background: Much attention has been paid to the clinical management of HIV yet little is understood about the impact of differences service models on client experiences and satisfaction. Studies suggest integration can increase access to sexual and reproductive health (SRH) services and may be less stigmatising for clients.

Methods: An exploratory study was conducted in Manzini, Swaziland to investigate client experiences in two specialist HIV clinics, and two integrated clinics. In-depth interviews were conducted with 22 clients (7 male, 15 female) at ART initiation, who were subsequently re-interviewed after two and six months. The aims were to explore client SRH needs, experiences in the clinic, and preferences for integrated/specialised care.

Results: There were substantial reported unmet needs for SRH services across all sites, including many cases of unintended pregnancies, limited use of effective contraceptive methods, and poor screening for sexual health. Clients who report low sexual activity at ART initiation often regain libido, yet family planning is covered mostly at initiation, if at all. While clients are encouraged to use condoms, and rely on them for contraceptive protection, they report problems with consistent use. Clients are generally satisfied with their own treatment site: those at integrated sites appreciate privacy and access to a range of services; those at specialist sites appreciate companionship from other HIV patients. But clients seem to value affective elements of quality of care over the specific model of service delivery, and clients at purportedly integrated sites still have to visit multiple providers and rooms to receive component services.

Conclusions: These qualitative data suggest that integrated clinics may not perform much better than specialist sites in meeting clients' SRH needs, and may offer a less supportive environment for HIV patients. Counselling at all sites should be strengthened to respond to evolving SRH needs of clients on ART.

Should ART clinics be offering sexual and reproductive health services? Provider perspectives on the integration of sexual and reproductive health with HIV care in Swaziland

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Background: The integration of sexual and reproductive health (SRH) with HIV services has become a policy focus in recent years, yet little attention has been given to the perspective of HIV providers to delivering integrated care.

Methods: In-depth interviews were conducted with 16 providers from four HIV clinics in Swaziland offering anti-retroviral therapy (ART) services. Nine respondents were from specialist ART units and seven from integrated facilities where SRH services are available on-site. The aim was to explore attitudes to integration and specialisation, perspectives on the SRH needs of clients, perceived challenges to integration, and recommendations on models of SRH and HIV care.

Results: Providers across all sites appreciated the benefits of an integrated approach, in particular for improving continuity of care. Most felt that the SRH needs of clients are not adequately addressed by current service structures; even in integrated sites, providers usually refer internally for component SRH services, which they may not reach. Many had limited recent training in SRH topics, and felt unprepared or unwilling to do family planning method provision. There were also concerns about SRH integration, with several favouring integration with TB services. Systemic challenges to integration were identified (such as data monitoring and procurement systems, high client loads, space and infrastructure, lack of supplies and equipment), although observations suggested these may less prohibitive than providers feared. A culture of sub-specialism within primary care may also inhibit progress towards integration goals.

Conclusions: Providers highlight a need to increase attention to SRH within HIV services in Swaziland. Given problems with internal referral models, all HIV providers may ultimately need to offer basic SRH counselling. Adaptations may be needed at service-delivery and policy levels to overcome some systems-level challenges to service integration, and providers may need reorientation training to deliver more holistic care to clients.